

LATEST SMARTPHONES, TABLETS & WEARABLES

ANDROID

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20

**OnePlus X
revealed**



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PLUS:

**Best large-screen
Android tablets**



Welcome...

The third in the company's line-up and the second to arrive this year, the OnePlus X is the rumoured OnePlus Mini we've all been waiting for. With its new glass or ceramic design it's not quite a mini OnePlus 2, but what else is new? We compare the specs to see which new OnePlus is the one for you on page 3.

Tablets are always a popular gift at Christmas time, and if you want a device on which to enjoy media and games you'll want one with a large screen. We compare four of the Android market's leading large-screen tablets – from the new budget-friendly Amazon Fire HD 10 to the high-spec Sony Xperia Z4 Tablet – on page 8.

If you have just bought a new Android tablet and are still finding your way around, on page 90 we answer some of your most common questions.

Elsewhere in this issue, you'll find stacks of reviews. We've covered everything from the budget Samsung Galaxy Core Prime (page 82) and Vodafone Smart Speed 6 (page 75) to flagship phones from Sony (page 24), Motorola (page 39), Huawei (page 46) and Honor (page 53). Plus, don't miss our review of the best Android tablet to date – the 8in Samsung Galaxy Tab S2 is on page 18.

As always, we hope you've enjoyed this issue of Android Advisor. Feel free to send us your feedback via facebook.com/AndroidAdvisorUK or email marie_brewis@idg.co.uk.



Comparison: OnePlus X vs OnePlus 2

OnePlus' two latest Android phones go head-to-head

OnePlus has just unveiled its second Android phone for 2015, but what's the difference between the OnePlus X (above left) and OnePlus 2 (above right)? In this article, we compare the specifications of the two phones to see what's the difference between OnePlus' 2015 line-up.

Price and UK availability

Both the OnePlus X and 2 are available by invitation only (unless you go down the grey-market route). You can get an invite through OnePlus' social media channels, through online competitions, by getting an invite off a friend who has previously purchased the device, or by joining the reservation list.

The X is significantly cheaper than the £239 (16GB) or £289 (64GB) OnePlus 2, at £199 for the Onyx model and £269 for the Ceramic model. However, note that only 10,000 Ceramic OnePlus X phones will be made.



OnePlus X

Design

Although it was rumoured to be the OnePlus 2 Mini, and in terms of weight and measurements it is, the OnePlus X appears to be quite a departure for the company. In place of the sandpaper-like rear cover you now find Onyx black glass on an etched metal bezel. OnePlus is also producing 10,000 ceramic models, each said to be 25 days in the making.

The Onyx model is the thinnest and lightest OnePlus phone to date, at 140x69x6.9mm and 138g. The Ceramic model (pictured left) is the same size, but a little heavier at 160g. By comparison, the OnePlus 2 is significantly larger, 151.8x74.9x9.85mm, and heavier, at 175g.

This difference in size and weight is primarily down to the differing displays,

as we'll explain next, although with the OnePlus X the company has also fitted a smaller battery – 2250mAh against the 2's 3300mAh.

Both phones feature the new Alert Slider, which lets you set the priority for notifications without taking the phone out of your pocket, but only the OnePlus 2 features a fingerprint scanner. Plus, where the OnePlus 2 features futureproof USB-C for charging and data transfer, the OnePlus X has reverted to Micro-USB.

Display

Whereas the OnePlus 2 is fitted with a 5.5in IPS panel, the X has a smaller 5in AMOLED panel. Both are full-HD (1080p) screens, but the X will appear clearer due to those pixels being stretched over a smaller area. New to the X, and thanks to the AMOLED screen tech, is its ability to act as an ambient display, waking in duochrome mode to alert you to notifications. The screen will also wake when the phone is removed from a pocket or bag.

Hardware

Although we have yet to run the OnePlus X through our benchmarks, it's clear that the OnePlus 2 will

OnePlus 2



win on performance, fitted with a 1.8GHz octa-core second-gen Snapdragon 810 processor and 4GB of DDR4 RAM in place of the OnePlus X's 2.3GHz quad-core Snapdragon 801 and 3GB of DDR3 RAM.

With the OnePlus 2 you get a choice of 16GB (with 3GB RAM) or 64GB (with 4GB RAM) of built-in storage; with the OnePlus X it's simply 16- or 16GB. But you do get support for microSD up to 128GB.

Connectivity

We had hoped the OnePlus X would reinstate the connectivity features missing from the OnePlus 2, notably NFC. We also hoped it might include support for Qualcomm Quick Charge and wireless charging. It doesn't do any of these things. In fact, the OnePlus X takes away more than it adds. As we've mentioned, gone are the fingerprint scanner and USB-C port. It adds support for microSD, but at the expense of being a dual-SIM 4G phone – it's either/or here. Both phones support Bluetooth 4.0, GPS and GLONASS, and 802.11b/g/n Wi-Fi.



OnePlus 2

Cameras

The OnePlus X is fitted with a new 13Mp rear camera with f/2.2 aperture, optimised white balance and saturation, and a fast 0.2-second autofocus with phase detection. It can capture full-HD video, or 720p in slow-mo (120fps) mode. There's also an 8Mp selfie camera at the front.

The OnePlus 2 also has a 13Mp rear camera, with a six-element lens that's capable of shooting 4K, time-lapse and slow-motion video. It has all the features you'd expect for a flagship camera, including optical image stabilisation, a laser autofocus (which can focus in under 0.3 seconds), a dual-LED flash, an f/2.0 aperture and 1.3µm pixels that should work more effectively in low-light environments. The selfie camera is rated at 5Mp.

Software

Both phones are running OxygenOS based on Android 5.1.1 Lollipop. Aside from the Ambient Display feature mentioned above, you should get the same experience on OnePlus X and 2.

Verdict

The OnePlus 2 is undoubtedly the more powerful and futureproof phone, but the X is attractive as a cheaper, smaller handset with support for microSD. So while the OnePlus 2 will be the better phone for many users, the OnePlus X has plenty of merit.





Comparison: Best large-screen Android tablets

We put the market leaders through their paces

Which is the best large-screen Android tablet? We compare the specifications of market-leading Android tablets, including the Amazon Fire HD 10, Google Nexus 9, Samsung Galaxy Tab S2 9.7 and Sony Xperia Z4 Tablet.

Price

The Amazon Fire HD 10 is the cheapest, and right now you can buy either the 16GB or 32GB model from Amazon for £169.99.

Made by HTC, Google's Nexus 9 is now a year old and the second cheapest. It's currently on sale

at Amazon, and you'll pick up the 16GB model for £224.99, 32GB for £284, and the 4G model for £400.55. Also see our full Nexus 9 review.

The cheapest price we could find for Samsung's 9.7in Galaxy Tab S2 at the time of writing was £320.85 from Amazon. That's for the 32GB version.

Most expensive of the four is Sony's 32GB Xperia Z4 Tablet. It has an RRP of £499 direct from Sony, but shop around and you should find it a little bit cheaper.

Display

Samsung's Galaxy Tab S2 9.7 is the thinnest and lightest tablet of our line-up, just 5.6mm thick and weighing 389g. Sony matches that weight with its 6.1mm Xperia Z4 Tablet (although the 4G version weighs in at 393g). The Sony Xperia Z4 Tablet is also waterproof.

All four are pretty slim, however, with the 7.7mm Fire weighing 432g, and the 7.95mm Nexus 9 weighing 425g (436g for the 4G model).

Size is obviously dependent on the screen, so as you might expect the Sony is the largest at 167x254mm and the Nexus the smallest at 153.68x228.25mm. Amazon's Fire HD 10 measures up at 159x262mm, and the Samsung at 169x237.5mm.

The screen is a key difference in each of these tablets, with the Kindle HD 10 and Sony Xperia Z4 Tablets offering the largest screen area at 10.1in on the diagonal, the Nexus 9 the smallest at 8.9in and the Samsung second-smallest at 9.7in.

In terms of resolution, the Fire HD is the weakest, with its HD resolution of 1280x800 resulting in a

pixel density of 149ppi. That's half what you get with the Sony Xperia Z4 Tablet, which has the highest-resolution panel here – a true Quad-HD 2K screen with 2560x1600 pixels and a density of 299ppi.

Samsung and Nexus tablets both offer a 2048x1536 '2K' resolution, which falls short of true Quad-HD but their smaller screens mean pixels are stretched over a smaller area and the difference is less notable. For example, the 288ppi pixel density of the Nexus is very close to the 299ppi of the Sony, and even at the Samsung's lower 264ppi we're not convinced you'd be able to tell the difference, particularly given the differing screen tech.

For what it's worth, none of these tablets offer what we call a 'Retina' resolution of 326ppi, which Apple says (and which we don't believe) is the point at which the human eye is no longer able to pick out individual pixels.

The Amazon, Nexus and Sony tablets all feature an IPS panel, which are known for their



Amazon Fire HD 10

realistic colours and strong viewing angles. The SuperAMOLED panel on the Samsung is vibrant, and such displays tend to over-saturate colours (an effect you either like or dislike, and we like).

Hardware

Amazon specifies its Fire HD 10 tablet with a 1.5GHz MediaTek MT8135 quad-core chip, PowerVR G6200 graphics and 1GB of RAM. Google's tablet has only a dual-core processor, yet performance is better (we'll come on to this in a minute). The Nexus 9 is equipped with a 2.3GHz Nvidia Tegra K1 with a 192-core Kepler GPU and 2GB of RAM.

The Samsung and Sony tablets are each fitted with 3GB of RAM and an octa-core processor – the 1.9/1.3GHz Exynos 5433 in the Samsung, and the 2GHz Qualcomm Snapdragon 810 in the Sony. These processors are closely matched in performance, with the Sony's Snapdragon taking the slight edge. It integrates Adreno 430 graphics, while the Exynos has the ARM Mali-T760MP16.

We run all the tablets we review through Geekbench 3.0, which measures overall performance. In this test we recorded a multi-core score of 1514 points for the Amazon tablet, 3352 for the Nexus 9, 4175 for the Samsung, and 4573 for the Sony.

In real-world use you should find all tablets quite capable, but there is a marked difference between the Fire HD 10 and the other three Android tablets in our group. Amazon's tablet will at times feel sluggish.

For storage you get 32GB built-in with the Samsung and Sony tablets, 16- or 32GB with the Amazon Fire HD 10, and 16- or 32GB with the Nexus 9. The only tablet of the group not to



Google Nexus 9

support microSD for up to 128GB of additional storage is the Nexus 9.

Battery life will be very much dependent on what you require of a tablet, but from each of these tablets you should expect a good eight hours use, if not more. Amazon doesn't specify the battery capacity of the Fire HD 10, but claims it offers 8 hours runtime. Samsung claims the same for its Tab S2, which has a 5870mAh battery.

This is smaller than average for a large-screen Android tablet, however, with the Sony offering a 6000mAh battery and the Nexus a class-leading 6700mAh, with which it promises 9.5 hours life.

Connectivity

Connectivity options are pretty standard here. All four tablets support dual-band 802.11ac Wi-Fi and Bluetooth 4.1 (Bluetooth 4.0 LE for the Fire

HD 10). They all support GPS. And 4G is an option for all these tablets.

The Amazon Fire HD 10 is alone in its omission of NFC, while if you want to hook up your tablet to a large-screen TV you should know that the Nexus 9 doesn't support MHL. None offers an IR blaster.

For extra-secure logins, only the Samsung features a fingerprint scanner. The Sony also has an extra trick up its sleeve with support for PS4 Remote Play. For audio the Sony stands out with support for high-res audio and stereo speakers. The HTC-made Nexus 9 will also prove a strong contender in this scenario with front-facing stereo speakers.

Cameras

This may seem like a strange thing to compare on large-screen Android tablets, and few people will want to use their tablet to take photos when



Sony Xperia Z4 Tablet

they can much more easily whip out their smaller and more capable phone or dedicated camera for the job. Still, if they fit them, we'll compare their specifications.

For this reason front-facing cameras are arguably more important than those at the back, used for video chat over Skype and similar services. Sony stands out in this regard with its 5.1Mp webcam. The Samsung is second-best with 2.1Mp; next is the Nexus with 1.6Mp; and last comes the Fire HD 10 with a VGA (0.3Mp) camera.

At the rear, should you wish to use them, the Amazon tablet has a 5Mp camera and the other three are all rated at 8Mp.

Software

Software is a key area for comparison, and the one where the Amazon Fire HD 10 falls down. Amazon installs its own Android 5.1 Lollipop-based Fire OS 5 software, which does not support Google apps. That means the Google Play, Gmail, YouTube and Maps apps with which you're likely familiar are all out.

In other respects, though, Fire OS 5 is a nice system. It offers quick access to the features you use most, with dedicated home screen pages for books, games, apps, video, music, audiobooks and newsstand. Amazon also recommends items tailored to your personal interests.

Family Library lets you share content across devices, Mayday offers on-device tech support, and there are new features such as Word Runner that help you to read faster by keeping your eyes focused on the centre of the screen and bringing the words to you. Amazon has its own app store,

Samsung Galaxy Tab S2 9.7



within which the apps that are genuinely free (both to download and free of in-app purchases) are separately stored. There are more than 300,000 apps in the Amazon AppStore, but that's not a patch on what's available in Google Play for the other three tablets here.

The remaining three Android tablets each run out of the box or can be upgraded to Android Lollipop. An update to Android 6.0 Marshmallow should be available to the Nexus 9 – and, as a Nexus device, it will always be first to get Google updates, and benefits from a plain OS that is exactly as Google intended. Sony and Samsung each put their own stamp on the Android software.

Verdict

Which of these tablets is best for you is very much dependent on your individual needs. At £169.99, the



Sony Xperia Z4 Tablet

Fire HD 10 is by far the cheapest, but the reason why is clear when you compare its specification against the other three tablets here, plus consider the fact you can't install apps from Google Play. Technically speaking the Sony Xperia Z4 Tablet is the best tablet in our round-up – it's the fastest, it has the best screen, excellent audio, some great extras such as a waterproof chassis and PS4 Remote Play, and more. It's also by far the most expensive. If money's no issue then great, go for the Sony. But Samsung's Galaxy Tab S2 9.7in is an incredibly close second-best that's available for much less money at around £320 (putting it in direct competition with the iPad Air, but we'd go for the Tab S2 over Apple's tablet every time). It also boasts a

fingerprint scanner, a brilliant screen and very strong performance. We can't ignore the Nexus 9 for the sheer value it offers – an outstanding deal at £225. Although it lacks a microSD card slot and has the smallest screen here, it is a very nice screen and the Nexus 9 is also very nicely designed and offers decent performance. Plus, you get the plain Android experience Google intended, and will always be first to receive software updates.



**Samsung Galaxy
Tab S2 9.7**



Review:

Samsung Galaxy Tab S2 8

Samsung's tablet is a worthy rival to Apple's iPad

The Samsung Galaxy Tab S2 models are the successors to 2014's original Galaxy Tab S range, which featured the S 8.4 and the S 10.5. We thought they were the firm's best tablets, so we had been looking forward to the arrival of the second generation, and we're pleased to say that they don't disappoint.

Design

There are two sizes of the Galaxy Tab S2 available, in a similar move to Apple's iPad range. Here, we're talking about the smaller 8in model, but there's also

a 9.7in option if you want a larger tablet. If you're an Apple fan, those sizes might sound familiar, as the iPad mini 4 is 7.9in, while the iPad Air 2 is 9.7in.

We'll talk a bit more about the screen later, but first let's explore the design and build of the Galaxy Tab S2 8, which is a delight to hold and felt on par with the iPad mini in terms of quality and comfort. It's just 5.6mm thick, which is a whole millimetre thinner than its predecessor, and also thinner than the 6.1mm mini 4 and lighter, too. It weighs only weighs 265g – Apple's tablet weighs 299g.

Our review unit of the Tab S2 8 was white, but we've also spent some time with the black model, both of which are gorgeous. The back of the tablet is made with plastic, though it manages to look more premium thanks to the metal edges and glass front.

Display

The screen sizes of the two Tab S models are smaller than their predecessors, a move that's opposite to the way smartphones are heading where bigger seems to be better. With the decrease in size comes a reduction in pixels, as can be expected. Both have the same resolution, though, down from 2560x1600 to 2048x1536. For the 8in model, that means a pixel density of 320ppi.

That display is Super AMOLED, as can be expected from Samsung, and the company has said that they deliver 94 percent of the Adobe RGB standard. There are also two display features to make it look even better: Adaptive Display, which can automatically adjust gamma, saturation and sharpness; and Reading Mode for the perfect brightness for your eyes.

The screen is stunningly good – it's bright and crisp, and the colours pop, making a great experience if you plan on using your Tab S2 for watching videos and playing games.

Hardware

Inside the Tab S2 8 is an Exynos 5433 Octa-core processor and Mali T760MP6 for graphics, as well as 3GB RAM, which makes for a smooth and speedy little tablet. We didn't experience any lag, even when playing graphics-intensive games and switching between apps.

In our benchmark tests, the Galaxy Tab S2 managed some impressive results, scoring a whopping 4305 in the Geekbench 3 processor test and therefore blowing the iPad mini 4's 3101 out of the water. Indeed, it was much closer to the 4523 scored by the iPad Air 2.

When it comes to graphics, the Galaxy Tab S2 couldn't match the iPad mini 4's performance, but it came close. It managed 26fps on the T-Rex GFXBench test and 11fps, in the Manhattan test. The iPad mini 4 scored 37fps in T-Rex and 15fps in Manhattan.

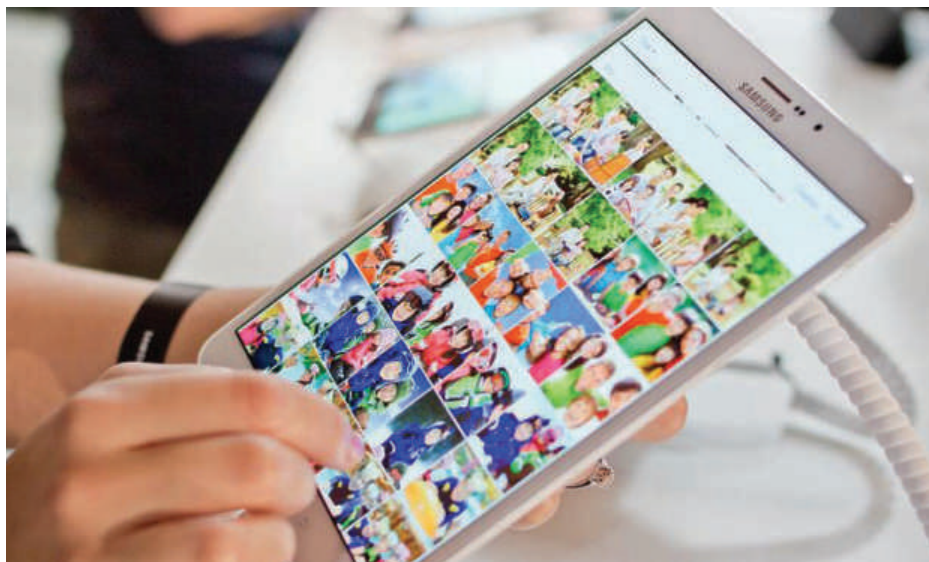
Internal storage is 32- or 64GB, and there's a microSD card slot, allowing you to add up to 128GB more space, so you won't be running out of room for more videos, photos or apps any time soon. When it comes to connectivity, you'll find 802.11ac Wi-Fi, Bluetooth 4.1, GNSS and optional 4G LTE, so all of the connectivity features you'd expect from a flagship tablet these days, which we're pleased to see. There's also a fingerprint sensor, which has been improved since the previous generation to

match the Galaxy S6 phones. This replaces the old swipe requirement with a much easier-to-use touch mechanism that's similar to the Touch ID fingerprint sensor found on the latest iPads.

Cameras

The cameras on the Galaxy Tab S2 8 are good for a tablet, but not great when you compare them with the cameras you'll find on flagship smartphones. We don't, however, know many people who take lots of photos using their table, so we're not disappointed. The front-facing camera is 2.1Mp, while the rear-facing offering is 8Mp.

In our tests, we found that pictures were a little grainy and shutter speed isn't great, but you should find the images you're able to capture satisfactory. Plus, you're more likely you'll be using a smartphone or dedicated camera for anything important you





want to take a picture of. There are some good modes available, though, including Panorama, HDR, Virtual Shot, Dual Camera and more.

Above and opposite are two example photos taken using the Galaxy Tab S2 8's rear camera.

Software

The Tab S2 comes with Android Lollipop 5.0 preinstalled, and we expect to see an Android Marshmallow update in the near future. As a bonus, you get Microsoft Office and 100GB of OneDrive free for two years with your tablet. Samsung has also added some of its own features to the software, including the Pop-Up Window and Smart Manager features.

Verdict

We've loved the Galaxy Tab S2 since the very first time we got our hands on it back. It's a tablet that's well worth considering if you've been thinking about



buying the iPad mini 4. It's almost unbelievably thin and light, and that screen is a joy to use.

Specifications

- 8in (2048x1536, 320ppi) Super AMOLED display
- Android 5.0 Lollipop
- Exynos 5433 (quad-core 1.9GHz Cortex A57, quad-core 1.3GHz Cortex A53);
- Mali T760MP6
- 3GB RAM LPDDR3
- 32/64GB internal storage
- MicroSD (up to 128GB)
- 8Mp rear, 2.1Mp front cameras
- 11ac Wi-Fi
- Bluetooth 4.1
- GNSS
- Micro-USB,
- Optional LTE
- 135x199x5.6mm
- 265g



Review: Sony Xperia Z5

Sony impresses with its latest flagship phone

With technology in smartphones hitting something of a ceiling, it's hard to differentiate in a crowded and fierce market. Sony, like HTC and others, is finding it hard to compete with the likes of Samsung and Apple, but hopes the £549 Xperia Z5 will give it a boost.

In terms of design, Sony hasn't really changed its formula, which has been in place since the

original Xperia Z. The Xperia Z5 has that square industrial style, look and feel that makes it instantly recognisable as a Sony handset. That said, there are some tweaks, which are nice.

In our opinion, the Z5 looks more desirable than previous models. This is largely due to the new frosted glass rear cover that gives it a matt finish, and the graded metal frame, which matches the colour of the phone. Colour options include white, gold, graphite black and green.

Once again, Sony offers full waterproofing and there's only one flap to cover the card slots, so you don't need to faff around with headphone or USB ports, which makes things hassle-free. The iconic round power button has gone, here replaced by a flat and slightly recessed button, which also houses a fingerprint scanner.

Something we don't like, although it's a small detail, is that the volume rocker has been moved further down the side of the phone. It's now close to the bottom and, in our tests, we found it difficult to use – above the power button seems to make more sense.

Unfortunately, the device is thicker and heavier compared with the previous model. It's now 7.3mm and 154g, compared to 6.9mm and 144g. Although that's not a big difference, the Z5 doesn't feel as nice in the hand compared to its rivals.

The square shape just isn't as ergonomic, and there are places where the edge of the glass or metal is sharp. This might seem like a small thing to point out but in day-to-day life it matters more than, say, a few extra frames per second in a graphics benchmark.

Hardware

Let's get a couple of things out of the way on the specs side of things. The Xperia Z5 still has a 5.2in screen with a Full HD resolution, so that's the same as the Xperia Z2. The new screen tech is found on the Xperia Z5 Premium, which is the first 4K smartphone we've seen. The quality is still good, but we would have preferred it if the regular Z5 was Quad HD. The only new thing to talk about here is that the display can be used normally even when covered in water droplets.

Another thing that remains the same is that the Z5 has a Snapdragon 810 processor. We found the phone extremely nippy in use, even launching the camera. In normal use, it doesn't overheat like the Xperia Z3+. However, it can if you push it hard enough. When recording 4K video we got a warning



at around 19 and a half minutes – an icon notifies you of the high temperature, too – but we did reach 30 minutes of continuous recording without the camera switching itself off.

RAM remains at 3GB, plus there's 32GB (21GB available on our sample) of internal storage and a microSD card slot, which can accept up to 200GB. It's good to see Sony sticking with expandable storage with so many devices (the OnePlus 2, iPhone 6 and Galaxy S6 to name just three) not having this feature.

The Xperia range has long touted good battery life and the Z5 is no different with Sony still claiming two days of usage. The still non-removable battery is 2900mAh in capacity, which is oddly 30mAh lower than the Z3+. You'll be able to quick charge the phone, getting five and half hours usage from a 10-minute charge – however, the QCH10 charger is not included in the box and will cost you £19 from Sony.

In our battery benchmark test using Geekbench 3, we recorded a time of five hours 37 minutes with a score of 3376. This is respectable but just over an hour short of rivals like the Galaxy S6, which we didn't expect due to the lower-resolution screen. We have found battery life to be good from a user point of view and should last most of the advertised two days.

So what has changed? Well Sony is going big on two features: the new camera and the fingerprint sensor. Sony admits that it's a bit late with a fingerprint sensor, but it's managed to do something a bit different. Yes, it's inside a button like rivals, but the firm has put it inside the power

button. This is firstly impressive since it sits on the side and is slim, but also means it's a much more ergonomic placement – exactly where your thumb naturally falls when you pick up the phone, so all you need to do is push the power button and the sensor reads your print at the same time. It's consistently quick and accurate.

Now on to the camera, which is new for the first time since the Z1. The Z5 now has a 23Mp main camera (1/2.3in and f/2) with various improvements and features – it's the same camera on the Compact and Premium models, too.

For starters we'd like to give Sony a nice round of applause for keeping with the two-stage dedicated physical camera button on the side, which not only launches the camera app whenever you need, but also makes taking photos easier.

Aside from the higher resolution of the sensor, Sony is touting three main improvements for the camera. It has the fastest autofocus on the market, according to the firm, at 0.03 seconds, plus thanks to a hybrid system it also has x5 Clear Image Zoom for better results when you zoom in on an object, and it also provides the clearest low-light performance.

Sony sets the camera to 8Mp by default, so you'll have to head into the settings to switch to the full 23Mp compliment, which will shoot in 4:3. This is perhaps to avoid larger files filling up the internal storage and/or oversampling for the Clear Image Zoom feature.

Going back to what Sony says about the camera and that autofocus is incredibly fast. Perhaps not 0.03 seconds every time, but it's one of the quickest we've seen.



The Clear Image Zoom feature seems to be nothing more than marketing as we've not found it to be particularly good. In fact, a photo taken at x5 compared to zooming in on a full-frame still is better. As usual, you'll want a camera with optical zoom if you want good results in this respect.

Low-light performance is good, but the Z5 lacks optical image stabilisation, which plays a big part in stopping shots in poor conditions ending up a blurry mess. For most users, the camera will provide excellent photos and video using Superior Auto Mode and there is a load of other camera apps to play with, including Manual, Multi Camera and the slightly odd AR Mask, which lets you have the face of a gorilla or even one of your mates.

Software

Sony hasn't done much on the software side with the Z5 range – it's really all about the design and hardware. The Z5 ships with 5.1 Lollipop and Sony will, of course, make Android 6.0 Marshmallow



available for the Z5 range, but there's no timing for the upgrade at the time of writing.

On top of the stock Android elements such as recent apps, Sony still adds its floating widgets giving you things like a calculator, timer and even a web browser, which can be resized and pinned to the side when not in use. We also welcome the ability to customise the quick settings, so you can make sure the ones you use the most are there.

We're seeing much less fragmentation with Android these days and Sony is one smartphone maker which doesn't mess too much with the vanilla interface. It does have the firm's usual style and add-ons such as nice wallpapers, widgets and apps such as PlayStation. All of which are welcome, but there is a bunch of other preloaded apps such as Facebook, Amazon Shopping, and AVG, which we're

not so keen on. We think users should be the ones to decide which apps are installed.

Verdict

There's no doubt that the Xperia Z5 is a solid flagship smartphone from Sony and an improvement on the Z3+. We like the new frosted glass rear cover and the addition of a fingerprint scanner in that slim power button. Once again, the camera is great, but tough competition means rivals are now available for a lot less. Once the price drops this will be a great option for anyone looking for a waterproof flagship with a microSD card slot.

Specifications

- 5.2in Triluminos Display IPS (1080x1920, 424ppi)
- Android 5.1 Lollipop
- 2.2GHz octa-core Qualcomm Snapdragon 810 CPU
- Adreno 430 GPU
- 3GB RAM
- 32GB internal storage
- MicroSD slot (up to 200GB)
- 23Mp rear camera AF with LED Flash
- 5Mp front camera
- Video recording at up to 2160p
- Wi-Fi up to 11.ac
- Bluetooth
- NFC
- 4G LTE Cat 6
- Nano-SIM
- 2900mAh battery
- Dust and waterproof (IP68)
- 72x146x7.3mm
- 154g



Review:

Sony Xperia Z5 Compact

Why this compact phone is the leader of the pack

Sony doesn't do a mini version of its flagship smartphone every time, but it has once again with the Xperia Z5 range, and we're pleased to see a new smaller handset again (priced £429) following the Xperia Z3 Compact.

Design

We've always been a fan of Sony's Compact phones, and although the new model doesn't look massively

different to previous offerings, it's got some new design features to show off. Like its bigger brother, the frosted glass rear cover looks good and the graded metal frame also adds to the style. It has a more premium finish this time around.

We're not convinced by the flat sides though, which make the phone feel a little brick-like and chunky. The finish on the metal frame also means that's it's difficult to grip. Colour options include black, white, yellow and coral colour options.

As with the regular Z5, the Compact is thicker and heavier compared to its predecessor even though Sony says it has the same footprint – it's now 8.9mm and 138g, compared to 8.6mm and 129g. That's not a huge difference and it's accentuated by the flat sides, but it's not the right direction to be going in.

Another strange thing about the design, which we also found on the Z5, is that the metal frame doesn't sit flush with the front and rear glass. This creates a slightly sharp edge, which can be uncomfortable. We did find it less of a problem on the Compact, but it's nevertheless a loss of build quality compared to even the original Z1 Compact.

As we found with the larger Z5, the volume rocker on the Compact is too far toward the bottom of the phone to be comfortable – we're not sure why Sony didn't put it the other side of the power button.

You'll notice that the power button looks different to the round offering of previous phones. This is because it now has a fingerprint scanner built in, which is quick and accurate. Plus, having it on the side makes more sense than any other implementation, as it's where your thumb naturally sits on the phone.

Sony hasn't decided to drop any key design features either, so the Z5 Compact is still waterproof IP68 – with only one flap for the card slots.

Hardware

The Z5 Compact has some new hardware, though it's a shame to see the screen still at 4.6in and 720p – we would have liked to see an upgrade to Full HD. That's not to say that the display isn't good, but it's not an area that will compel existing owners to upgrade for. Sony has confirmed that some users may find issues with the touchscreen's responsiveness, however, it told us that a software update will fix this issue.

There's still 2GB of RAM and 16GB of storage, although our sample had 32GB (21GB available), plus there's a microSD card slot, which can take up to 200GB. The processor inside is a Qualcomm Snapdragon 810. This is a nice upgrade from the Z3 Compact, which has a Snapdragon 801. Sony has to be applauded for once again making sure that many of the specifications remain the same as the regular model, instead of downgrading various specs.

With excellent performance, the Z5 Compact is snappy in more than just camera department. The benchmark numbers are very impressive, but during our tests we found that not everything was instantaneous all of the time.

Inside the Z5 Compact is a 2700mAh battery (up from 2600mAh on the Z3 Compact) and Sony touts two days battery life. There's no wireless charging, but you can use a QCH10 charger to get five-and-a-half hours usage from 10 minutes plugged in – although Sony doesn't provide a charger in the box.

In our battery benchmark, the Z5 Compact lasted a middle-of-the-road four hours 57 minutes, with a score of 2970. That's neither impressive nor poor, but most users will get the advertised two days of usage before needing to charge – unless you hammer it with tasks like gaming, shooting video and watching video.

Other specifications to mention include 11ac Wi-Fi, Bluetooth 4.1, NFC and 4G LTE support. If you want things like a heart-rate monitor, you'll need to look at Sony's rivals. It's a shame that the notification LED is on the front next to the light sensor rather than stylishly combined into the strip earpiece.

As well as the processor staying the same compared to the flagship model, the 23Mp camera is also a key feature of the Z5 Compact. It's worth noting that you'll need to head into the settings to shoot at 23Mp, but Sony has intended it to be



used at 8Mp, with the remaining pixels used for oversampling. The camera is supposedly the fastest to focus at just 0.03 seconds, offers x5 Clear Image Zoom and has the best low light performance.

We can certainly vouch for the quick autofocus system, which locks on without delay almost every time. It's easily one of the fastest we've ever seen on a phone, and will help to avoid missing moments.

Shooting in 8Mp does help for zooming in, but doesn't always produce the best results. If you like detail and sharpness, you might be better off switching up to 20- or 23Mp shots. The bottom line is that Clear Image Zoom isn't what Sony makes it out to be – get a proper camera if this is a big deal.

While some low light shots can come out well, the lack of optical image stabilisation is a big hindrance here – again, Sony's claim of being the best isn't true. It's a good camera, but the problem is that Sony is making it out to be the best you can buy in



a smartphone and we just didn't find that to be the case. To sum up the hardware situation, it's a shame to see 720p as the screen resolution but the display is smaller than the Z5's and the key thing here is that you're getting the same high-end specs (although there's 2GB of RAM). Sony has impressed us before with this and has done so once again here.

Software

With some design and hardware changes, there's little to say about the software on the Z5 Compact, which comes preloaded with Android 5.1 Lollipop. Sony has confirmed that it will be upgraded to Android 6.0 Marshmallow at a later date.

Existing Sony users will be instantly at home with the user interface, which looks almost identical to previous versions. Much of it is stock Android Lollipop, and as a spokesperson for Sony told us: "Why mess with it?" While elements such as the notification bar and recent apps look the same as a Nexus phone, Sony does add its floating widgets, wallpapers and some stylish widgets, which we're all for. You can also customise the quick settings which is a welcome feature. There are also Sony's good quality apps such as Walkman, Album and PlayStation. We're not, however, so keen on finding third-party apps such as Facebook, Dropbox and AVG, though these can be removed.

Verdict

The Xperia Z5 Compact is the best small phone around. Those looking for Z5 design and specs in a smaller frame will be pleased. The fingerprint scanner is a great addition and the Snapdragon

810, with almost stock Android, provides slick performance. However, the camera isn't as good as Sony makes it out to be.

Specifications

- 4.6in IPS (720x1280, 323ppi)
- Android 5.1 Lollipop
- 2.2GHz Quad-Core Qualcomm Snapdragon 810 CPU
- Adreno 430 GPU
- 2GB RAM
- 32GB internal storage
- MicroSD slot (up to 200GB)
- 23Mp rear camera AF with LED Flash
- 5Mp front camera
- Video recording at up to 2160p
- Wi-Fi up to 11.ac
- Bluetooth
- NFC
- 4G LTE Cat 6
- Nano-SIM
- 2700mAh battery
- Dust and waterproof (IP68)
- 65x127x8.9mm
- 138g





Review:

Motorola Moto X Style

This stylish phone has great specs across the board

As you might expect from a smartphone called the X Style (£359), Motorola has created a good-looking device. There's a lot more to this phone than good looks alone though, as it also has great specs and an impressive big screen.

Design

The Motorola Moto X Style is available in a wide variety of different colours and finishes, so you can

pick the one that suits you best. Materials include Saffiano leather or real wood, and you can pick metallic accent colours or engrave your name thanks to the Moto Maker tool. In total, there are 18 different inlays in various colours and materials, and seven different accent colours to choose from.

Of course, that's if you use the Moto Maker (tinyurl.com/oozy4dL), which is a big draw of the Moto X Style. The standard models are white or black, with a plastic rear cover.

In terms of size, the Moto X Style is 154mm long, 76mm wide and 6.1mm at its thinnest point, 11.06mm at its thickest. So thanks to tiny bezels around the screen (which we'll talk more about in a moment), it manages to avoid being big and bulky despite its large display. It also feels light, at 179g, and is comfortable to hold thanks to the curved back.

Unfortunately, it isn't waterproof like the new Moto G. Instead it's splash resistant, so should be okay if a bit of rain or sweat finds its way onto it but you won't want to drop it into the sink or spill a drink on it.

Display

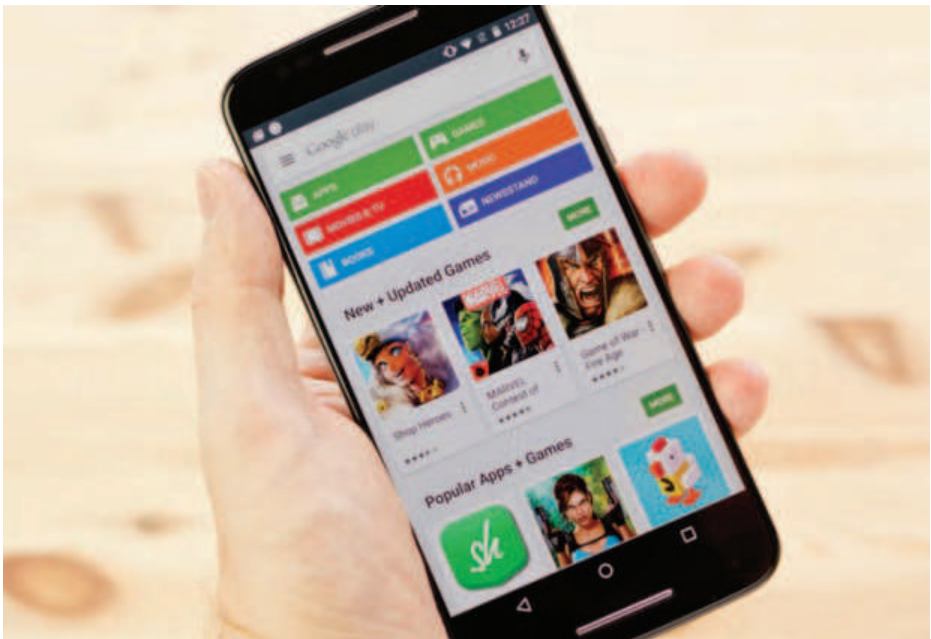
The X Style has a stunning Quad HD (520ppi) 5.7in display with teeny tiny bezels that, as we've said, means the overall size of the device isn't too huge. Still, the size isn't going to suit everyone. We'd have liked it to be closer to the 5in mark like the Moto G, but it's all down to personal preference and clearly Motorola thinks bigger is better for most people.

That screen should be durable too, as it's made with Gorilla Glass 3. During our tests, we found the screen was bright, crisp and colourful, and an absolute joy to look at. It's perfect for watching

movies and playing games, and it definitely gets close to the amazing quality of the screens on high-end smartphones including the Samsung Galaxy S6 and the LG G4.

Features

Inside the Moto X Style is a hexa-core 1.8GHz Qualcomm Snapdragon 808 with Adreno 418 graphics. That's paired with 3GB RAM, so you should find this a speedy smartphone that's capable of more or less anything you throw at it. As you can see, the benchmark results (shown opposite) are good, but more importantly we found the phone to be lovely and smooth during everyday use. This is partly, we feel, down to having in essence a stock version of Android (more on this later).



Storage options are 32- or 64GB, with a microSD card slot that supports up to 128GB, so you won't be run out of space any time soon. It's the first time we've seen a microSD card slot on a Moto X phone and it's a welcome addition.

Inside the X Style is a 3000mAh battery, which Motorola says will last 'all day'. In our benchmark test, however, it lasted just four hours 24 minutes, which is a fair way behind most phones. The Galaxy S6, for example, which also has a Quad HD screen lasted nearly seven hours. Realistically, you'll be charging every night even if the phone hasn't run out of power completely.

Easing things in this area is Turbo Charging, which means you'll get 10 hours of battery life from 15 minutes charge time, plus a power adaptor is provided with the phone, which isn't always a given, with some rivals making it an optional extra.



You'll also find front-facing stereo speakers with Smartboost, which is great if you plan on watching movies without headphones or enjoy playing games on your smartphone, particularly when paired with that stunning display.

When it comes to connectivity, you'll find Bluetooth 4.1 LE, Micro-USB charging (not Type-C), a 3.5mm headphone jack, 802.11ac Wi-Fi and 4G LTE, as well as NFC and GPS.

Camera

The Moto X Style has an impressive, 21Mp camera on the rear and a 5Mp offering on the front. That front snapper also has a wide-angle lens for improved selfies that can capture more of what's around you, and even includes a Night mode and flash. The pixels are bigger at 1.4 microns, too. Using the Actions part of the Moto app, you can launch the camera with a double twist of your wrist.

Taking a closer look at the rear-facing camera, it has an f/2.0 aperture, phase detect autofocus, a dual-tone LED flash, 4x digital zoom and the Night mode, as well as Burst mode, Auto HDR, Panorama, 4K video with stabilisation at 30fps or 1080p HD video at 60fps. There's also Slow Motion and Video HDR capabilities.

During our testing, we managed to capture some great photos both of people mingling and still-life objects. It seems to work well in low-light, too. We also found it to be very good during our longer period of testing the final unit.

Like many phones, it shoots at a lower resolution to achieve a 16:9 aspect ratio but you can switch to 21Mp if you don't mind 4:3. Also note that HDR is

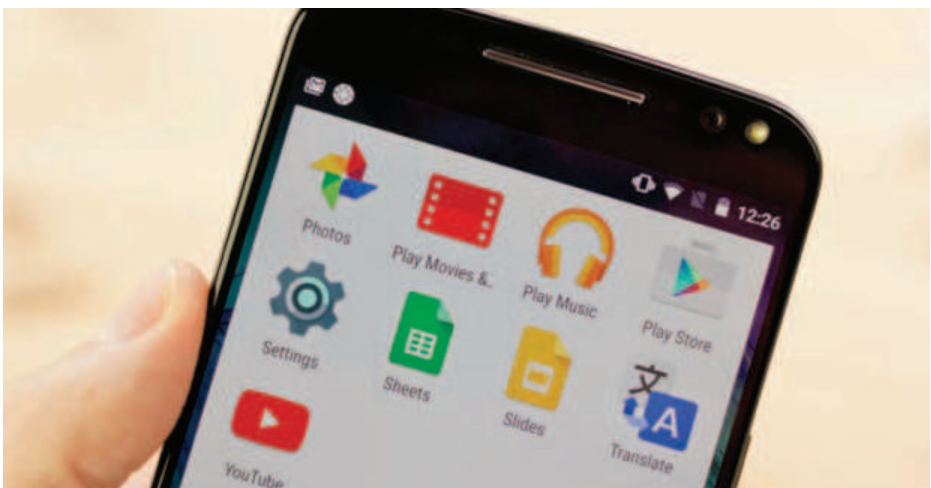
automatic by default and we'd recommend turning on touch to focus to get the best results.

Software

The Moto X Style comes with Android 5.1.1 and doesn't stray far from the stock, vanilla operating system designed by Google. In fact, Motorola's devices are probably the closest thing you can get without buying a Nexus phone. That's a real plus point for us.

On top of the usual Android features, you do get some decent Motorola add-ons. For starters, Migrate will help you move content from your previous phone, while the Moto app is the new combined home for the firm's other services including Assist, Voice, Display and Actions.

It's well worth checking out these extras, which can do a number of handy things such as give you notifications without switching the screen on fully, automatically go silent when at work (for example),



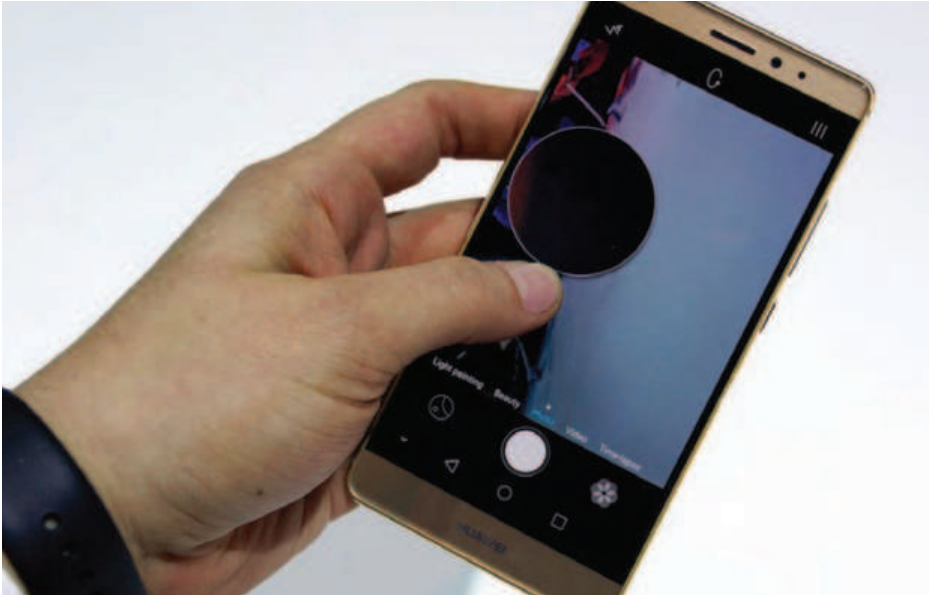
launch the camera with a twist of your wrist and read text messages out when you're driving.

Verdict

If you're looking for a big screen phone, then the Moto X Style is a great choice. It's got great specs across the board and is cheaper than rivals such as the Google Nexus 6P. We love the screen, the stock version of Android and the cameras. However, it really stands out when using the Moto Maker to customise the smartphone, though this costs more.

Specifications

- 5.7in (1440x2560, 520ppi) TFT LCD display, Quad HD
- Android 5.1.1 Lollipop
- 1.8GHz hexa-core Qualcomm Snapdragon
- 808 processor
- Adreno 418 GPU
- 3GB RAM
- 32/64GB built-in storage
- Up to 128GB microSD card slot
- 3000mAh battery with turbo charging
- Water resistant IP52
- 4G LTE
- 802.11ac Wi-Fi
- 21Mp rear camera with dual-LED flash
- 5Mp front-facing camera
- Bluetooth 4.1 LE
- Front-facing stereo speakers
- NFC
- GPS
- 153.9x76.2x6.1-11.06mm
- 179g



Review:

Huawei Mate S

A good-looking phone with some intriguing features

Huawei has announced its latest smartphone: the Mate S (£469). It looks gorgeous, and offers some pretty interesting features.

Design

Huawei has concentrated heavily on the design of this handset, which is reflected in its gorgeous metal unibody (dual diamond cut for precision). The phone has a slight curve at the back, which makes using it over long periods of time more comfortable.

Dimensions wise, the Mate S is just 2.65mm at its thinnest point, widening to 7.2mm at the thickest point of the device. It comes in at 149.9x75.3mm, which is surprisingly smaller than the dimensions of the iPhone 6s Plus (158.2x77.9x7.3mm). Why is this surprising? Because the S Mate has the same size display as the iPhone 6s Plus (5.5in), but is smaller and a lot more comfortable to hold and use.

Huawei wanted to minimise the presence of antenna lines with the Mate S, an issue that all unibody phone manufacturers (including Apple) have to deal with. The antenna lines are the plastic strips that run across the back of many phones including the iPhone 6s, HTC One M9 and Huawei's own P8. While it's not currently possible to completely remove these antenna strips as these allow signals to be sent and received by the phone, Huawei has tried its best to minimise their presence.

How? Huawei has designed the Mate S in such a way that it doesn't require as many antenna strips as other leading smartphones, and the company has managed to make them thinner too, 1.5mm compared to the iPhone 6's 2mm strips.

Display

The Mate S has a full 1080p HD 5.5in display that looks crisp, clear and bright thanks to a high contrast ratio. It has a pixel density of 401ppi. The Huawei comes with Corning's 2.5D Gorilla Glass 4 to protect the display.

The 64GB variations offer Force Touch technology, much like that used on the Apple Watch and the iPhone 6s. Its capabilities seem limited at the moment, with Huawei looking for suggestions on



how best to implement the technology in future. At present, you can Force Touch a photo to get multi-level photo magnification, plus it can be used to weigh objects by placing them on the screen.

Hardware

Huawei has placed a fingerprint sensor on the back of the device, which the company claims is a lot more convenient than having it on the front of the smartphone. Tapping this will trigger the shutter when taking a selfie, swiping down on the sensor will allow access to the notification center, while swiping from left to right (and vice versa) in the Gallery app will swipe between your various photos and videos.

The Mate S also offers dual-SIM technology, with support for 13 mainstream 4G LTE frequencies that cover Europe, USA and Asia. If you don't want to use two SIMs at once, the second slot can be used buy a microSD card.

Internally, the Mate S has a Hisilicon Kirin 935 octa-core processor (a Huawei-designed chip), coupled with 3GB of RAM. Alongside the Kirin 935 sits the Mali T628 MP4 GPU.

We ran benchmark tests to see just how well the hardware performs compared to its competitors. In Geekbench 3, the Huawei Mate S scored 778 in single-core and 3265 in multi-core mode, which puts it in line processor-wise with the Galaxy Note 4 and Honor 6 Plus.

We use GFXBench to test the graphical power of the phone, and the results were surprising, though for all the wrong reasons. It scored 5.8fps in Manhattan and 11fps in T-Rex, putting it in line with mid-range smartphones such as the Ulefone BeTouch and the Honor 6 Plus. SunSpider wasn't much better. We recorded 1448ms, which may sound impressive until you realise that with regards to SunSpider results a lower the score is better.

Inside is a 2700mAh lithium-polymer step platform battery that Huawei claims can last over one day on a single charge, though our battery test suggested otherwise. We use the Geekbench 3 battery test that keeps the display on until the phone dies. The results showed that the Mate S can last six hours 13 minutes on a single charge, with a score of 3706, which puts it in line with the OnePlus 2. The company claim that fast charging capabilities of the Mate S is 2x faster than the iPhone 6 Plus, and that 10 minutes of fast charging will equate to around two hours of talktime.

Hidden away inside the Huawei Mate S are three microphones, which are used alongside Huawei's smart directional algorithm for directional audio

recording, with the aim of cutting out any unwanted background noise. You can set it to automatically detect whom to focus on, or you can move the in-app ring to record in a specific direction. It also has a one to one mode that eliminates side noise and produces 'direct listening' for situations like interviews. Though this sounded like a fascinating concept, the quality of the audio was disappointing.

Cameras

On the rear of the Mate S is a 13Mp camera, with a four-colour RGBW sensor, which according to Huawei, will help to capture a more vibrant picture and colourful image. The phone also has 1.2-degree optical image stabilisation, which should combat the shakiness in the videos and images taken on the smartphone. It also features a colour temperature LED flash, which aims to combat the tinge left by the flash that some smartphone users suffer from.

With regards to the front-facing camera, the Mate S has an impressive 8Mp camera. It seems that Huawei has listened to the cries of selfie-lovers and has included a soft lighting flash, which provides a decent level of light without over exposure when taking photos in dark environments. You can also improve your selfies, with smoother skin, brighter eyes and a thinner face.

With regards to video, both the front- and rear-facing cameras support 1080p recording.

Overall, we were impressed by both the forward- and rear-facing cameras, both in terms of quality and capture time. As soon as we hit the shutter button, the photo was taken. The company has also included a number of filters, including an impact



mode for high contrast black and white photography, and a deeply tuned black and white filter for a more 'classic' look. While we're not usually fans of using filters, we were pretty keen on these – see above.

Software

The Mate S comes with a Huawei-customised version of Android 5.1 Lollipop, which includes some interesting features not available on standard Android devices. The first is the notification centre, which is accessed by swiping down from the top of the screen. As well as being able to access various toggles, you can swipe right to access a timeline view of all your notifications over the past 24 hours.

It also comes with a Power usage 'firewall' that'll highlight any power-intensive apps that are draining your battery. From the menu, you're able to quickly disable the background processes completely, or tweak what the app can do in the background.

The Huawei Mate S also offers an interesting way to interact with your phone – by knocking on it. It includes knuckle touch control 2.0, which can be set up to wake up your phone whenever you

tap on it with your knuckle, and you can also use your knuckle to crop photos and take screenshots anywhere in the operating system.

Interestingly, you can also use knuckle touch to crop videos – simply double-tap to start the recording, and double-tap to stop it. It'll create a new video file with your shorter video instead of directly overwriting the original.

Verdict

The Huawei Mate S is a very promising phone. Its design is beautiful, it's lightweight and it fits perfectly in our hands despite the 5.5in display. The only real letdown is the graphical power, as benchmark results put the Mate S in line with smartphones around £200 cheaper, although we experienced no real lag in our use.

Specifications

- 5.5in AMOLED display
- Android 5.1.1 with EMUI3.1
- Hisilicon Kirin 935
- MALI 628 MP4
- 3GB RAM
- 32/64GB memory
- Front-facing 8Mp camera with LED soft light
- Rear-facing 13Mp camera with optical image stabilisation, four colour sensor and dual colour-temp LED flash
- Dual-sim with 4G connectivity
- MicroSD card slot if second SIM not in use
- 2700mAh non-removable battery
- 149.9x75.3x7.2mm
- 156g



Review: Honor 7

A solid flagship smartphone for a fantastic price

Honor, the brand backed by Huawei, has impressed us with its flagship phones at low prices, so we had high hopes for this.

Design

Although the Honor 7 (£249) looks similar to its predecessor, it actually looks more like the Huawei Mate S – thanks to its metal rear cover.

It's a bit bigger than the Honor 6 though, so you'll need to bear this in mind if you're thinking of



upgrading. It's by no means the most svelte 5.2in phone on the market, and it's more the 157g weight than the 8.5mm thickness that bothers us.

The front of this handset has a plain appearance – all the styling is found on the rear. The metal body looks like phones that cost twice the price, although we couldn't tell it has a ceramic blasted finish. Strips at the top and bottom have a crosshatch texture, while a shiny bevelled edge all the way around finishes things off nicely.

You may have noticed that a recessed fingerprint scanner sits below the camera and there's an additional button on the left side. We'll come to the fingerprint scanner in the hardware section, but that so-called 'smart button' can be customised to do what you want, such as open an app.

Hardware

The Honor 7 has a 5.2in screen, which is a small increase from the 5in display found on the Honor

6. The resolution remains at Full HD (1080x1920) though, so pixel density takes a small dive to 424ppi. That said, the IPS screen looks nice and crisp, with colours that pop and decent brightness available.

Under the shiny exterior is a bump to a Kirin 935 processor, which is still octa-core, with the same Mali-T628 GPU, though clock speeds are higher with half at 2.2GHz and the other half at 1.5GHz. A healthy 3GB of RAM is on offer and we've found performance to be beautifully smooth.

The benchmark results don't entirely reflect this, namely in the graphics department, but we've not had any problems from a user perspective.

Where the Honor 7 really stood out under testing was battery life thanks to the 3100mAh battery. In our benchmark, the phone lasted an impressive seven hours eight minutes, with a score of 4238. That's the best results we've seen from a phone, seven outpacing Samsung's Galaxy S6 models, which last just under seven hours.

In terms of storage, you can choose either 16- or 64GB of internal capacity, while a microSD card slot allows up to 128GB more. Core connectivity consists of dual-band 11ac Wi-Fi, Bluetooth 4.1 LE, GPS, NFC and 4G LTE support. The IR blaster also remains in the line-up and you get a fingerprint scanner on top. You can use this to unlock the phone with multiple fingerprints, though it can do a lot more. Like a touchpad on a laptop, you can use it for navigational purposes, such as opening the notification bar and recent apps. It can also take you to the homescreen, take a photo, answer a call and stop an alarm. If any of this is annoying – we found it easy to do things by mistake – you can switch these functions off.

Before we talk about software, there are the all-important cameras to cover. Both have been upgraded compared to the Honor 6 jumping from 16- to 20Mp at the back at 5- to 8Mp at the front.

The main camera now has phase detection autofocus and shoots very quickly, which is always welcome. There's plenty of detail on offer from the Sony sensor and we like the bokeh effect, which gives the impression of a DSLR with out-of-focus backgrounds. The front camera isn't as detailed as 8Mp suggest, but it's better than a lot of phones and the new LED flash will come in handy for dark situations like when you want to take a selfie in a pub or at a gig.

Software

The Honor 7 comes preinstalled with Android 5.0 Lollipop, which is a little out of date now that 6.0 Marshmallow has started rolling out. We're not sure



when an upgrade will arrive, but it should get the OS since the phone is quite new.

As usual, there is the Huawei has placed its Emotion UI skin over the top and the Honor 7 comes with version 3.1. As we've found with previous phones running the overlay, there are pros and cons.

We love the different lockscreen photo every time you press the power button and being able to set the extra 'smart button' to do whatever you want. There are also quick settings such as music control.

However, we don't like the grid view recent apps, which is awkward to use, and we just don't understand why there is no app menu. This leaves icons all over the homescreen panels as with iOS.

Preloaded apps consist of more than just Google's collection, which includes Maps and Gmail. You also get Facebook and Twitter, which we imagine you would download anyway, and games such as Dragon Mania and Puzzle Pets. You can uninstall anything you don't want.

Verdict

Honor has once again impressed us with a flagship smartphone at an outrageous price. For under £250, you get a lot of phone for your money. Performance is good, with the main camera and fingerprint sensors being the highlights on the hardware side. The Emotion UI isn't our favourite Android skin, but it's perfectly usable and you can always change it if you like.

Specifications

- 5.2in (1080x1920, 424ppi) IPS display
- Android 5.0 Lollipop

- Octa-core Kirin 935 CPU (4x 2.2GHz Cortex-A53 and 4x 1.5GHz Cortex-A53)
- Mali-T628 MP4 GPU
- 3GB RAM
- 16/64GB internal storage
- MicroSD card slot (up to 128GB)
- 20Mp rear camera, AF with dual-tone LED Flash
- 8Mp front camera with LED flash
- Video recording at up to 1080p
- Fingerprint scanner
- Dual-band Wi-Fi 802.11a/b/g/n/ac
- Bluetooth 4.1 LE
- NFC
- IR blaster
- A-GPS
- Micro-USB 2.0
- 4G LTE (Cat 6)
- Nano-SIM
- 11.5Wh (3100mAh) non-removable battery
- 72x143x8.5mm
- 157g





Review: Ulefone Paris

A dual-SIM octa-core 4G phone for under £100

It costs less than £100 and comes with dual-SIM 4G LTE connectivity, an octa-core processor and a 5in HD screen, but is this Android phone a good buy?

UK availability

The Ulefone Paris was sent to us by Coolicool.com, which is currently selling the budget phone on its site for £88.39. Note that this phone is shipped from China, so you may have to pay additional charges for import duty.

Design

For a budget smartphone, the Ulefone Paris has a very slight and inoffensive build. It weighs a tiny 128g, and is just 8mm thick, making it easy to operate in a single hand. Although it looks plastic, the frame is a very lightweight metal, which adds durability, while the 5in fully laminated HD IPS screen is protected with tough Gorilla Glass 3.

With 1280x720 pixels stretched across a 5in panel, the Ulefone Paris has a pixel density of 294ppi, which is a little below that of the 326ppi iPhone 6s. This means, for a sub-£100 phone, the screen is pretty clear.

With IPS screen tech, the viewing angles are good and the colours realistic, although we did find the screen a bit dull even at maximum brightness – you may find that visibility in very bright sunlight is compromised. It's also very prone to fingerprints.

There are just two physical buttons on this phone, a volume rocker and a power switch on the righthand side. The three home, back and options buttons that sit below the screen are capacitive, and with no legends save for a white circle around the home button, you'll need to remember which way around they operate.

As with many Chinese phones, the Micro-USB charging slot is found on the device's top edge. Also here is a 3.5mm headphone jack, while at the bottom you'll find the speaker grille and mic.

The Ulefone's plastic rear is removable. It's flimsy but holds tight to the phone and doesn't flex or creak in normal use. Tucked underneath are dual-SIM and microSD card slots, plus a removable 2250mAh battery. A camera with LED flash sits

in the top-right corner, lying almost flush to the phone. Very slight curves at the edges, and also on the screen's 2.5D glass, make the Paris more comfortable to hold in the hand.

Hardware and performance

The Ulefone Paris ships with a 1.3GHz MediaTek MTK6753 octa-core processor, 2GB of LPDDR3 RAM and ARM Mali-T720 graphics. Performance for a budget phone is very good, and in real-life use it shows very little lag – launching the Camera app is probably the slowest thing, which takes just a couple of seconds. Plus, having all your apps on the home screen can speed up finding what you're looking for, provided you don't have too much installed.

Benchmarks should always be taken with a pinch of salt, but our test results are as follows: in



Geekbench 3.0 we recorded 2614 points in the multi-core test, making it faster than the Vodafone Smart Ultra 6, which currently sits at the top of our budget phones chart, and not far behind the iPhone 6 and HTC One M8.

In graphics and SunSpider, it lags those phones, but is still more than a match for Vodafone's best budget phone, with 15fps in GFXBench T-Rex (6.2fps in Manhattan) and 1489ms in SunSpider. We also ran AnTuTu, in which the Ulefone Paris recorded 29,796 points. You can compare the Ulefone Paris' performance to all the phones we've recently tested in our article [What's the fastest smartphone 2015](#).

There's 16GB of storage inside, although only 9GB is available to the user. Fortunately there's a microSD card slot, which supports up to 128GB when many budget phones can accommodate only 32GB.



The battery is removable, with 2250mAh capacity. Ulefone says it provides a full working day, and 268 hours on standby. Your mileage will vary depending on your usage, but there's nothing here that will place an excessive drain on the battery.

Connectivity and extras

One of the great things about the Ulefone Paris is that it's a dual-SIM phone, accepting two Micro-SIM cards. Dual-SIM functionality is becoming increasingly popular in the UK, allowing you to separate work and pleasure, or even just so you can insert a cheaper local SIM during trips abroad. Both the SIM slots on the Paris support 4G (and all three UK 4G LTE bands are covered), but only one can be configured to use data at a time – this phone operates in dual-standby mode.

There are few other extras, as you might expect from a budget phone. It supports 802.11b/g/n Wi-Fi, Bluetooth 4.0, GPS and GLONASS and USB OTG. Although there's no NFC, there is support for HotKnot, which is a MediaTek equivalent popular in China.

Cameras

The Ulefone's primary camera is a 13Mp Omnivision model that unlike many of the 13Mp cameras fitted to Chinese phones appears to achieve this without software. It has a large f/1.8 aperture and a dual-LED flash, and supports full-HD video recording. Smart gestures are also supported, letting you take a photo by swiping your finger over the front camera or taking a photo only when your subject is smiling.

It talks the talk, certainly, but in our tests we weren't overly impressed with the camera on the Ulefone Paris. Our test shot with HDR is below and as well as appearing a little washed out there is notable banding across the top half of the image. Still, for a budget phone it's not so bad.

For selfies, you also get a 5Mp Omnivision camera at the front of the Ulefone Paris.

Software

The Ulefone Paris is sold with Android 5.1 Lollipop, but with custom U Launcher software that makes some notable changes to the UI. As we mentioned in the introduction to this review, the result is an Android phone with some very iPhone-like software, whereby the app tray is removed and all your app shortcuts are placed on the home screen. It's a messy approach that we're not especially keen on, but it's easy enough to organise apps into folders and some users will find it faster to seek out the apps they need.



The icons are also iPhone-like, shown as squares with rounded corners. Four themes are available for altering the look of these icons, and you switch between them by tapping the Change Skin button on the home screen. You can also tap the Theme button to download extra themes and wallpapers, then set them as the default with a tap.

One addition we do like is the gallery timeline shown on the final home screen, pictured opposite. It's an attractive way of displaying your photos, and it makes quickly finding them by date much easier.

Other deviations from stock Android include some smart gestures. In the Settings menu, you'll find an option to turn on three-finger screenshots (you swipe up or down with three fingers to take a screen grab), plus a handful of options that are mainly to do with making, receiving and muting phone calls and taking photos.

Verdict

The Ulefone Paris is a great budget buy at £88, but bear in mind that you may also need to factor in import duty. Even so, it's a great rival to the £125 Vodafone Smart Ultra 6, which sits at the top of our budget smartphone chart (page 96), with faster core hardware and 4G dual-SIM functionality, but a lower-resolution screen. The camera isn't as impressive as the rest of this budget phone's spec, but it's still acceptable for such a cheap device.

Specifications

- 5in HD (1280x720) IPS screen, Gorilla Glass 3
- Android 5.1 Lollipop
- 1.3GHz MediaTek MTK6753 octa-core processor

- ARM Mali-T720 GPU
- 2GB LPDDR3 RAM;
- 16GB storage
- MicroSD support up to 128GB
- 5Mp front camera
- 13.2Mp Omnivision OM13850 rear camera with LED flash, supports full-HD video recording
- 802.11b/g/n Wi-Fi
- Bluetooth 4.0
- GPS, A-GPS, GLONASS
- 4G bands 3, 7 and 20
- HotKnot
- Dual-SIM dual-standby (2x Micro-SIM); both support 4G
- 2250mAh battery
- 3.5mm headphone jack;
- Micro-USB port
- 144.5x71.7x8mm
- 128g





Review: UMI Hammer S

A strong rival to the Vodafone Smart Ultra 6

The Hammer S is a larger phablet version of the UMI Hammer, the wallet-friendly Chinese phone that was billed as virtually unbreakable. It's not just the size and weight that's changed here, however.

UK availability

We received our review sample of the Hammer S from Coolicool.com. It's available from its Chinese warehouse for £88.39, or the European warehouse for £108.79. It's up to you which outlet you choose

to use, but if you take the cheaper option you could end up paying more if your parcel is picked up by Customs (no charges are applicable when shipped within Europe). Read our advice on buying grey-market tech before you make that decision.

Design

For a cheap phone, the Hammer S has a really nice design. Ours came in white, but the UMI is also available in black. It's larger and heavier than the original Hammer, but its 8.5mm design and 200g is not too extreme for a phablet, and the slightly curved edges both on the rear and the 2.5D glass on top make it easier to handle.

The frame is built from aviation-grade aluminium, and it feels not only tough but premium. Along its top edge you'll find a 3.5mm headphone jack and IR blaster, and at the bottom a USB-C charging- and data-transfer port and a single speaker – pleasingly this has been moved from its palm-muffling rear position on the UMI Hammer. On the righthand side is a power button and volume rocker.

Turn over the Hammer S and a camera juts out a small amount from the case, sat to the left of a dual-LED flash and just above a rear-mounted fingerprint scanner, which falls naturally under your forefinger when handling the phone. This cover is plastic and removable, but not flimsy or creaky, giving access to an also-removable 3200mAh battery, dual Micro-SIM slots and a microSD card slot.

The 2.5D curved glass at the front adds a touch of flair and protects the edges of the screen from chips. It doesn't lie entirely flush, however, and running your fingers over the edge you'll feel the

lip of the metal frame. Don't do that too much, though, because the Hammer S is rather good at attracting fingerprints.

The screen itself is a large 5.5in HD panel, which means it's usefully large for reading text or watching videos. (It's not so hot on gaming, as we'll come to later, but casual gaming should be fine.)

An IPS panel with a 1280x720-pixel resolution, the Hammer S is bright, responsive, and has excellent viewing angles and very realistic colours. Pictures and video look good, but despite the HD resolution the large screen area means you can pick out some fuzziness around the edges of text and icons – the UMI has a pixel density of 267ppi.

Hardware and performance

The Hammer S is not the fastest phone you'll find at this price, but in real-world use we think few users would think it slow. We never found it to take more than a second to launch an app, and



there are various smart gestures that make it even quicker to access what you need from standby. Lag is minimal, too, at least in its out-of-box, almost-vanilla-Android state.

But benchmarking is what we do at PC Advisor, so benchmarking we did. None of the results raised an eyebrow for any of the right reasons, but neither would we expect them to do so at this price.

In AnTuTu we recorded a lowly 20,237 points, and just 1391 points in the multi-core component of Geekbench 3.0. Performance in SunSpider was up there (or rather down there) with Android phones of the past, measuring a slow 2095ms in Chrome. Graphics weren't any better: in GFXBench (onscreen) the Hammer S turned in 8.5fps in T-Rex and 3.5fps in Manhattan.



Given its budget price, the Hammer S' storage and battery specifications are more attractive. There is 16GB of storage built into this phone – twice what you'll find from many of its rivals – plus support for microSD up to 64GB.

And while many people have reported battery life problems with the 2250mAh battery inside the UMI Hammer, the Hammer S is fitted with a higher-capacity 3200mAh battery. UMI says you can expect 300 hours on standby, 17.5 hours of music playback, or 11 hours of internet browsing over 4G.

Connectivity

And that leads us on to our next point. One of the problems with importing phones from abroad is that they are not always compatible with UK 4G networks. But the UMI Hammer S supports all three 4G LTE bands used in the UK – 3, 7 and 20 – and does so with support for dual SIMs (dual-standby).

There's an IR blaster for controlling compatible devices within your home, and the fingerprint scanner on the rear is a pleasing addition given that it recognises touch-based input – it's much easier to use, and even lets you set biometric security for individual apps rather than the entire phone.

The reversible USB-C port is another welcome addition, and now that support for the standard is built into the latest version of Android we'll see an increasing number of phones, tablets and accessories adopting Type-C USB. The Hammer S supports dual-band 802.11b/g/n Wi-Fi, Bluetooth 4.0, GPS and USB OTG. Rather than NFC it offers HotKnot, which seems to be pretty standard for Chinese phones.

Cameras

UMI says the Hammer S has a 13Mp camera, but it's actually an 8Mp Sony IMX179 that uses software to boost to 13Mp. It has six precision lenses, an f/2.0 aperture and a dual-LED flash. The Camera app supports the usual modes, covering everything from HDR to Beauty mode, motion-tracking mode, panorama and multi-angle view.

By default, images are shot at 13Mp in 4:3 format, and if you wish to shoot in 16:9 the max available is 9.5Mp. The results aren't bad – some detail is lost, but we like the vivid colours. You can see our test shot (captured with HDR on) below.

A 3.2Mp camera with an f/2.2 aperture and 1.12µm pixels is also available at the front of the phone.



Software

The Hammer S is preinstalled with Android 5.1 Lollipop out of the box. It's a plain implementation of Android, and whereas you'd normally expect to find a plethora of Google's own apps all you get here is Google Play. Of course, that means you can download any or all of Google's apps (and any other apps) as you see fit. That's not to say no apps are preinstalled, of course. There are UMI's own Browser, Camera, File Manager, Messages, Music and Calendar apps, plus the ZaZaRemote and SuperCleaner apps. Of the device's 16GB of built-in storage, just under 12GB is available to you.

One of the tweaks UMI has made is the ability to use smart gestures to wake the phone from standby and instantly launch an app of your choice. A double-tap will wake the screen; drawing down pauses music, and right or left can skip the song; and you can set custom gestures whereby drawing a letter on the front of the screen will wake the phone and launch your chosen app.

Verdict

We like the Hammer S. It's not the fastest phone you'll find at this price, but it's fast enough for daily use. The design is nice, and genuinely useful technology – USB-C and the fingerprint scanner, for example – comes at an attractive price. A strong rival to the Vodafone Smart Ultra 6.

Specifications

- 5.5in HD (1280x720) IPS display, 2.5D curved glass
- Android 5.1 Lollipop with UMI Rootjoy
- 1GHz MediaTek MTK6735 quad-core processor

- ARM Mali-T720 graphics
- 2GB RAM
- 16GB storage
- MicroSD support up to 64GB
- 8Mp Sony IMX179 rear camera (software to get to 13Mp), six precision lenses, f/2.0 aperture, dual-LED flash
- 3.2Mp front camera, f/2.2 aperture, 1.12µm pixels
- Dual-SIM dual-standby (2x Micro-SIM)
- Supports all three UK 4G bands
- Dual-band 802.11b/g/n Wi-Fi
- Bluetooth 4.0
- HotKnot
- GPS
- OTG
- IR blaster
- Touch ID fingerprint scanner
- USB-C
- 3200mAh battery
- 154x77.4x8.5mm
- 200g





Review:

Vodafone Smart Speed 6

A slightly disappointing handset, even for the price

The Vodafone Smart Speed 6 (£50) is the little brother to the Smart Ultra 6 and Smart Prime 6, two of our favourite budget smartphones on the market at the moment – they are first and third in our best budget smartphone charts on page 130. With these two previous handsets surprising us in terms of value for money, we were expecting great things from the Smart Speed 6.

Design

The Vodafone Smart Speed 6 is a budget smartphone, so you can't expect it to be as sleek as, for example, the Samsung Galaxy S6 or the LG G4, but it can still hold its own against other budget smartphones on the market. It has a plastic body that feels cheap in the hand, but when you consider it costs only £50, you can let it slide. It's available in two colours – silver or 'anthracite' (dark grey).

It's a bulky smartphone. However, even though it feels weighty at 146g, it's 9g lighter than the Smart Prime 6, which weighs 155g. Even with its weight, the Smart Speed 6 is comfortable to hold for long periods of time due to its curved rear, which helps it fit snugly into your hand.

It measures 132.2x65.1x10mm and houses a 4.5in display, which gives the Smart Speed 6 a 64.8 percent screen-to-body ratio. The bezels are thick around the edges of the screen, but again, for only £50 you can't expect an edge-to-edge display. The advantage to having a sub 5in display is that it's comfortable to use one-handed, as we were able to reach from one side to the other with ease.

Hardware and performance

As we've touched on, the Smart Speed 6 has a 4.5in IPS display, although we can't describe it as HD as it has a resolution of 480x854. It's not the brightest of screens either, and we had trouble using it in direct sunlight, particularly when trying to read text. That may have something to do with the low resolution, as text isn't as sharp and easy to read as it is on other devices. Even the Smart Prime 6, which costs only £30 more, has a larger, 720p HD display.



Inside is a quad-core 1GHz Mediatek MT6735M CPU coupled with a Mali-T720 GPU and 1GB of RAM. By itself this isn't impressive, but coupled with a low resolution display it performs well. In fact, when we ran our GFXBench tests, we found that the Smart Speed 6 beat the Smart Prime 6, which comes with a 1.2GHz Snapdragon 410 processor. In T-Rex, the Smart Speed 6 managed to get 11fps, compared to the 9.4fps offering of the Smart Prime 6 and in Manhattan, it hit 5.5fps compared to 3.8fps. When we ran Geekbench 3, it was a different story as it relies solely on the CPU and not graphical power. In single-core mode, the Smart Speed 6 scored 457 and in multi-core mode, we recorded 1258. To put this into some perspective, the Smart Prime 6 managed 464 in single-core mode and 1401 in multi-core mode. It's not much of a surprise though, as we experienced intermittent lag when using the device, even when swiping between the home screen menus. While the Smart Speed 6 will suffice for standard web browsing, calling and texting, we

wouldn't hold our breath with regards to gaming.

Storage wise, there's only an 8GB option available, and discounting the Android OS and Vodafone apps, you've only got around 4.7GB to play with, which isn't much. Thankfully, the Smart Speed 6 also features a microSD card slot, which can boost your internal memory by up to 32GB. It's worth noting that the Smart Prime 6 also features a microSD Card slot, though it supports up to 64GB of external storage.

Android users like to have access to their device's battery, mainly for the convenience of being able to swap out a dead battery for a full one when needed. Unfortunately, the Smart Speed 6's 1780mAh battery can't be accessed – a theme that's repeated on other Vodafone devices.

Connectivity

One of the Smart Speed 6's major selling points is its 4G connectivity, which brings the 4G network to people on a tight budget. There's also Bluetooth 4.0, Wi-Fi 802.11 b/g/n, GPS and an FM Radio. Thanks to the superfast 4G connectivity, you can also use the Smart Speed 6 as a hotspot to bring internet connectivity to other devices.

Cameras

The Smart Speed 6 has a 5Mp rear-facing camera, with a maximum resolution of 2592x1944 and an LED flash. Various shooting modes are available, including auto, manual, sport, HDR and manual, although we were pretty disappointed with the overall quality of the images taken by the camera. The lack of autofocus means that photos lack of



detail, and we were a tad disappointed with the results, especially when you consider the Smart Prime 6 has a decent 8Mp rear-facing camera.

As you can see in the above example, photos are over-exposed and overall offer the results are disappointing. It's almost as though they have been airbrushed – we can't make out a single brick from the photo of the St. Pancras hotel.

As well as a rear-facing camera, the Smart Speed 6 has a basic front-facing snapper. When we found out it was just 2Mp we weren't expecting a lot from it, though when it came to selfies, the camera performs well. The facial recognition comes in handy as you can't tap the screen to focus on yourself. As long as the phone recognises your face and focuses on you, you should get a selfie good enough for the likes of Instagram and Snapchat.

With regards to video recording, both the front- and rear-facing cameras have the ability to film in



720p HD. There's also image stabilisation, which can be toggled on in the Settings menu. Note this is digital image rather than optical image stabilisation, so the effects aren't as prominent.

Software

In terms of software, the Smart Speed 6 has a vanilla implementation of Android 5.1, with eight Vodafone branded apps: Message+, Call+, Direct Access, My Web, Smart Tips, Updates, Vodafone Store and My Vodafone. The Vodafone Store acts as a hub for your phone

and is where you can access your data allowance, minutes, texts, and so on.

Message+ and Call+ are interesting additions specific to Vodafone-branded handsets, and bring more functionality to standard phone calls and texts. For example, you're able to mark a call as important to let the recipient know it's urgent, or type the subject/reason for the call. You can even add your location, include a video or completely switch to a

video call mid phone call. Similarly, Message+ lets you share your location, contacts, create group chats and even customise the design of the app.

Verdict

Overall, we're disappointed with the Smart Speed 6. The camera lacks basic features that other budget smartphones have (autofocus) and its low resolution display is off-putting. Yes, it's only £50, but the Smart Prime 6 is just £30 more and is far better. It has a larger, 720p HD display, a faster processor, the microSD card slot handles up to 64GB, it has a higher resolution camera, its thinner and looks more premium than the Smart Speed 6. When you consider all the above, we think it'd be worth saving up a little more money to get a phone you'll be happier with. If you can afford it, we'd recommend the Smart Ultra 6 (£125).

Specifications

- 4.5in IPS (480x854) display
- Android Lollipop 5.1
- Quad-core 1GHz Mediatek MT6735M CPU
- Mali-T720 GPU
- 1GB of RAM
- 8GB of storage, can be extended by up to 32GB
- 5Mp rear facing camera; 2Mp front facing camera;
- 720p HD video
- Non-removable 1780mAh battery
- Bluetooth 4.0
- Wi-Fi 802.11 b/g/n
- GPS
- 132.2x65.1x10mm
- 146g



Review: Samsung Galaxy Core Prime

At £109, Samsung's handset is a tempting deal

The Galaxy Core Prime is one of Samsung's cheapest smartphones and is often the cheapest big brand phone you'll find when you walk into Tesco, Carphone Warehouse or even Argos. But is it a good phone and a good deal? Here's our Galaxy Core Prime review to help you decide if it's right for you.

Some people buy phones SIM free and if you want an unlocked Galaxy Core Prime it will cost £109. However, on a 24-month contract the phone

is free and costs as little as £12.50 per month. Mobilefun.co.uk supplied this phone for review.

Design and features

Available in black, grey or white, the Galaxy Core Prime is an all-plastic phone that looks more expensive than it really is. It shares its styling with some of Samsung's bigger, better phones and certainly doesn't look 'cheap'.

Build quality is good and there's a physical home button and touch-sensitive 'back' and 'task switcher' keys. Another benefit is that the battery is removable and that you can add up to 128GB of storage via the microSD card slot that sits on top of the single micro SIM slot.

The phone comes with Android KitKat and Samsung's familiar TouchWiz interface. We prefer the plain Android interface, but if you've used Samsung phones before, you'll instantly be at home with the Core Prime. There's an update to Android Lollipop, but not to Marshmallow.

When you swipe down from the top of the screen you get five Quick Settings shortcuts and it's possible to reorder and change which buttons appear there.

Impressively for an inexpensive phone, it supports 4G and also has NFC alongside the expected Wi-Fi, Bluetooth and GPS. In other regions the phone is sold without NFC and 4G, so make sure the model you're buying is the official UK one - model SM-G360F. Unlike some Samsung phones, there's no ANT+ or MHL support

What's not so impressive is the screen. Some might prefer the small 4.5in display over the current

trend for larger phones but the resolution and quality are most definitely budget. The 800x480-pixel panel looks blocky and makes small text hard to read. Colours also look washed out and lack the vibrancy of Samsung's premium phones. Viewing angles are fine and it does the job well enough, but it's not amazingly bright so is hard to see outdoors in bright conditions.

Just note that there is no ambient light sensor, so the screen brightness won't adjust automatically to your surroundings and having to adjust brightness manually is annoying if you're used to a phone that does it for you. In fact, sensors are thin on the ground with only an accelerometer and proximity sensor. There's no gyroscope, nor barometer. There's also no LED notification light.

Performance

Performance is pretty much what you'd expect of a budget phone too. It has a 1.2GHz quad-core processor – a Snapdragon 410, Adreno 306 graphics, 1GB of RAM and 8GB of storage (5.3GB is usable). In general use the phone feels zippy, but there's the occasional slowdown and also slight delays when launching apps.

Broadly speaking, performance is the same as the Vodafone Smart Prime 6 and Motorola Moto E 4G, which both have similar specs.

The 2000mAh battery is claimed to last up to 12 hours when browsing the web via Wi-Fi. In our standard battery test, the Core Prime lasted just shy of five hours. Not the best we've seen, but not too bad. And since it's easy to swap batteries, you can buy a spare and carry it with you.



Cameras

There's nothing special about the cameras: 5Mp at the rear and 2Mp at the front. They're just about acceptable at this price, but it's worth knowing that the camera app defaults to a bizarre 3.9Mp 5:3 aspect ratio setting, so the first thing to do is change this to 5Mp, which is a 4:3 aspect ratio.

In good light the main camera takes surprisingly decent photos, although they obviously can't compare with those from the Galaxy S6 Edge. But among its peers, the Core Prime holds its own. In low light focus can be slow and it's easy to miss the moment or end up with blurry pictures.

The same can't be said for selfies which are often soft and lacking in detail, despite the resolution that's higher than most iPhone selfie cameras.

Videos are recorded at 720p and are reasonable enough with little noise in good light. There's no stabilisation of course, so you'll need a steady hand to avoid shaky footage.

Verdict

If you love Samsung Android phones then you'll like the Galaxy Core Prime. It does lack a few features, but the missing ambient light sensor is one cut

corner too far. For only £79, we prefer Vodafone's Smart Prime 6. It has a 5in 1280x720 screen, better cameras and an ambient light sensor. Plus it runs an essentially plain version of Android.

Specifications

- 4.5in (8000x480, 207ppi) display
- Android 4.4.4 KitKat with Samsung TouchWiz
- 1GB RAM
- 8GB storage
- MicroSD support up to 128GB
- 1.2GHz Snapdragon 410 quad-core processor
- Adreno 306 graphics
- 5Mp rear camera with LED flash
- 2Mp front camera
- Single Micro-SIM
- Supports all three UK 4G bands
- Single-band 802.11b/g/n Wi-Fi
- Bluetooth 4.0
- GPS
- NFC
- FM radio
- Micro-USB
- 2000mAh battery (2000 hours standby, 60 hours music playback, 9 hours 4G internet browsing)
- 131x68.4x8.8mm
- 131g





News analysis: Android security

Why iOS still does app privacy better than Android

There's not a lot new in Android 6.0 Marshmallow, which is now slowly making its way on to Android smartphones and tablets. Google characterises it more as an under-the-hood effort to improve system performance and stability. But one of the key new features for users is the ability to manage the privacy settings of applications.

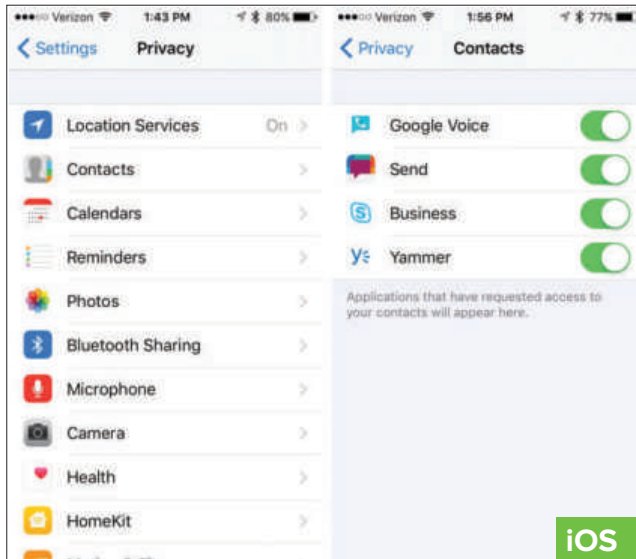
For several versions, Android has shown users what data and services an app wants to use when it is installed, but you could only accept or reject them all. Also, you weren't able to deactivate permissions (such as to your contacts or camera) later. By contrast, iOS has for several versions let you

manage specifically what data and services each app can use after you install it. iOS 9 continues to work the same way.

Although Android's new controls for managing specific privacy permissions is welcome, it's inferior to what iOS provides. The reason: iOS easily shows you all the apps that use a specific type of data or service, then lets you manage the access to that resource in one place.

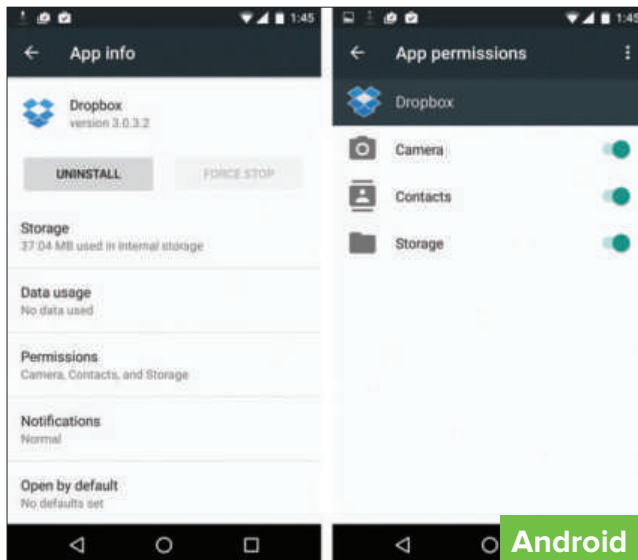
By contrast, Android Marshmallow hides that information, although it is available if you know the secret sauce. The operating system's UI steers you into checking each app's settings and managing the access settings separately. Thus, it's hard to get a clear picture of how exposed any type of data or service is across your smartphone or tablet.

If you want to see all the apps that use a specific type of data or resource, here's how. In the Settings



app, tap App, then tap the Settings icon (the gear) to open the Configure Apps screen. Normally, you use the More menu (via the ‘...’ icon) in Android for accessing additional features, but in this case you use Settings. In the Configure Apps screen, tap App Permissions to get a screen that shows each permission. Tap a permission, as you would in iOS’s equivalent but more accessible screen, to see and manage which apps use those permissions. It shouldn’t be that hard to find.

Of course, a diligent user will eventually find that obtuse path or go into each app’s settings in Android Marshmallow and check into every permission. (iOS lets you work that way too; if you tap an app in Settings, you can see its privacy permissions and adjust them.) But Android’s approach is also more apt to let apps get more access to your private data and system services than you’d like or realise.





Help desk:

Common tablet problems

Solutions to your most-asked questions

Technology is great but devices like tablet go wrong in various ways. Here we've compiled a list of the most commonly asked questions about tablets and answered them all.

Why is my tablet so slow?

Pretty much any tablet will feel fast when you first take it out of the box and set it up – unless you bought a really rubbish one (in which case you should try and take it back). However, like a lot of tech gadgets, they can get slow over time.

This can happen for a number of reasons but the most common is simply filling it up with apps, media, temporary files and other general digital junk. You should try and delete any apps you're not using or that movie which you're probably not going to watch again to free up some valuable space.

It might be than a particular app or a few apps are hogging valuable resources so you may need to weed these out. To find out how much RAM your apps are using go to Settings > Apps > Running or similar if your tablet doesn't point this kind of thing out automatically.

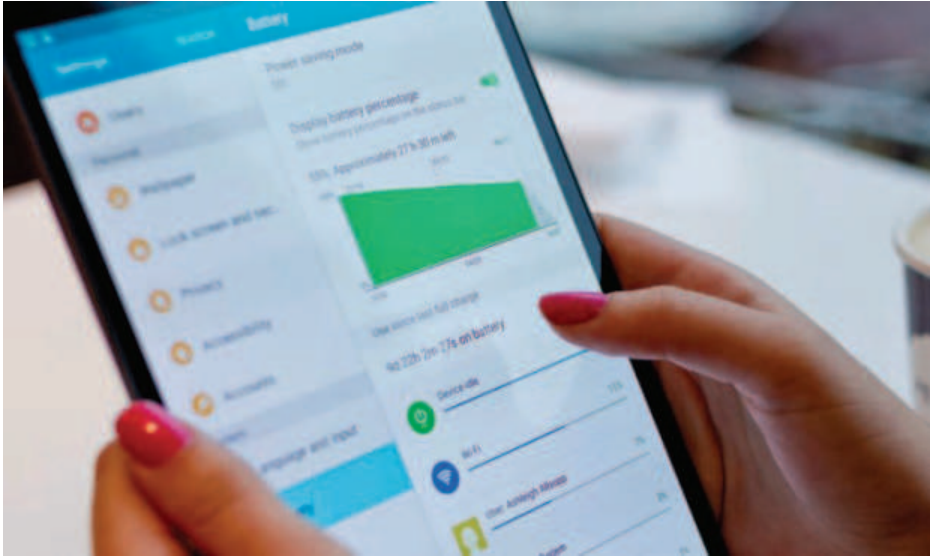
You may have a virus or malware which is doing nasty things without you knowing so make sure you get some good antivirus software for it.

If all else fails you can always perform a factory reset to get things back to how they were when you first set up your tablet. Make sure you back up any data you don't want to lose first and avoid doing a restore, so you can try and just download the things you really need and use.

Why is my tablet's battery life declining?

Battery life, like performance, is something which can often degrade over time. If it is dying quickly and you've had your tablet for a while then it might be that it needs replacing – if your device is new contact the supplier or manufacturer to get a replacement. You might have apps that are using a lot of battery by doing things in the background, so check which ones are the biggest juice guzzlers in Settings > Battery or similar.

To help with battery life issues start by switching things off that you're not using such as Wi-Fi,



Bluetooth and GPS and only turn them on when really needed. You can also carry around a portable battery pack to keep your tablet topped up.

If your tablet is slow to charge, you might be using the wrong charger or you've got it plugged into a USB port that doesn't have a good output. If the above doesn't apply, then your tablet could be faulty.

When it comes to a battery not charging, this might be because it needs replacing. It could also be the charger or the charging port. Try multiple chargers and try moving the cable around in the port a little to see if there is a dodgy connection. If you can't fix the problem yourself then you'll need to take it to be repaired.

Why is my tablet overheating?

A device getting too hot can be a worry but it can also be totally normal. If you're charging your tablet,



it will get warm, so don't worry. If you've been using it intensely to do something like watch a film or shoot video with the camera, then this will inevitably get the internals working hard which creates heat.

A lot of tablets these days have a metal design so can feel very warm or hot to the touch. However, this can actually be a good thing as the chassis is acting like a heatsink and allowing the heat to escape.

If you have a case on your tablet then this could well be stopping the heat from escaping and causing your device to overheat. You might need to use it without the case where possible or get an alternative which isn't like putting a winter coat on it.

If you feel your device is overheating in a detrimental way which it shouldn't – for example some devices with the Qualcomm Snapdragon 810 processor have this problem – contact the supplier or manufacture for a replacement or a refund.

Why is my tablet in safe mode?

If you find your tablet in safe mode – normally pretty obvious because there will be a message stating it at the corner of the screen – then you probably did it by accident. You can boot into safe mode on most devices by holding a volume key while pressing the power button.

For most tablets, getting out of safe mode is simply a case of rebooting it.

Why is my tablet's internet so slow?

If things are happening slowly on your tablet and you're not talking about laggy interface performance, it's probably your data connection.

Most tablets will be Wi-Fi only while some may have a SIM-card slot like your phone to connect to a mobile network for data. For starters, it's worth switching these connections off and on again to see if simply reconnecting makes a difference. If you've put a case on your tablet it may be blocking the signal so take it off and see if that helps.

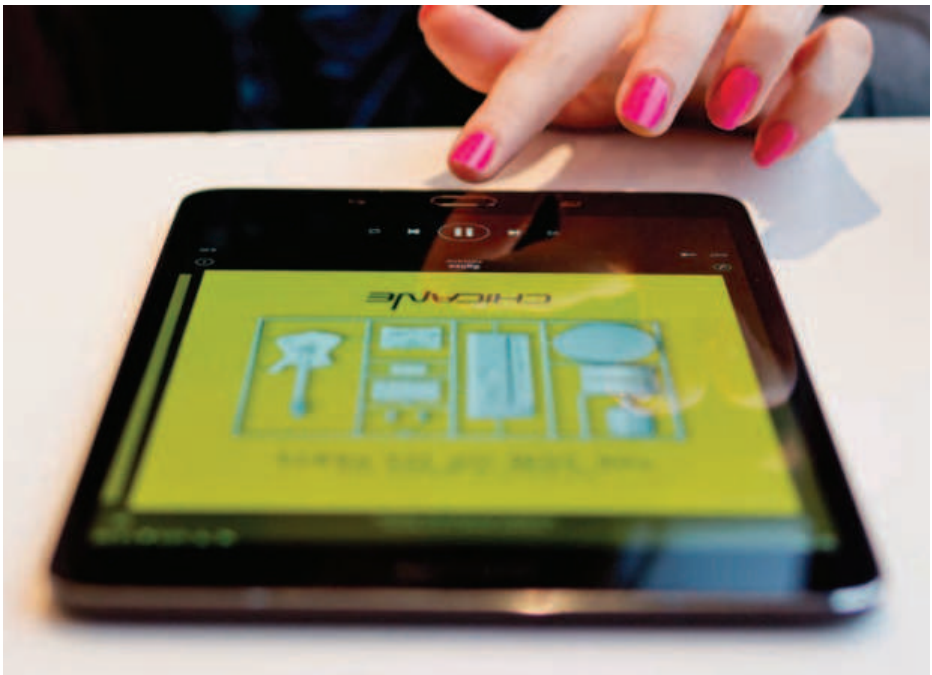
Nine times out of 10, the problem won't be with the tablet itself, but the network you're connecting to. If you're on mobile data and not using 4G, internet speeds can be slow, especially when you're in an area with bad signal. It could also be that the mobile network you're using is experiencing problems so check the service status.

If you're on Wi-Fi and experiencing slow internet it might be you're router's fault. Try resetting it and see if that helps. Note that if other people are using the network then you don't have free rein of the bandwidth. If someone's streaming a film on Netflix and/or someone is downloading a large game on

Steam then these types of activities are likely to be a cause of your slow speed.

You can test your speed with the Speed Test app (or via the web at speedtest.net) to check if you're getting the speed you're supposed to. Make sure no one is using the internet while you conduct the test. If the results are low your ISP (internet service provider) might be throttling your connection. This might be for a good reason – to give you a stable connection, for example – but it's worth making contact to find out what's happening.

If none of the above helps then you could have an internal problem with your tablet's hardware so it will need to be checked properly. Contact the supplier, manufacturer or a repair centre.



Best smartphones

1
PC ADVISOR
RECOMMENDED

2
3
PC ADVISOR
RECOMMENDED

4
PC ADVISOR
RECOMMENDED

5
Samsung Galaxy S6
Samsung Galaxy Note5
Sony Xperia Z3 Compact
LG G4
Sony Xperia Z5

Price	£349 inc VAT	£600 inc VAT	£349 inc VAT	£500 inc VAT	£549 inc VAT
Website	Samsung.com/uk	Samsung Galaxy Note 5	Sony.co.uk	Lg.com/uk	Sony.co.uk
Build rating	★★★★★	★★★★★	★★★★★	★★★★★	★★★★★
Features rating	★★★★★	★★★★★	★★★★★	★★★★★	★★★★★
Performance rating	★★★★★	★★★★★	★★★★★	★★★★★	★★★★★
Value rating	★★★★★	★★★★★	★★★★★	★★★★★	★★★★★
Overall rating	★★★★★	★★★★★	★★★★★	★★★★★	★★★★★
OS (out of box)	Android 5.0 Lollipop	Android 5.1.1 Lollipop	Android 4.4 KitKat	Android 5.1 Lollipop	Android 5.1 Lollipop
Processor	2.1GHz Exynos 7420	2.1GHz Exynos 7420	2.5GHz Snapdragon 801	Snapdragon 808 six-core	Snapdragon 810 octa-core
RAM	3GB	4GB	2GB	3GB	3GB
Storage	32/64GB	32/64GB	16GB	32GB	32GB
MicroSD support	x	x	Up to 128GB	Up to 128GB	Up to 200GB
Graphics	Mali-T760 GPU	Mali-T760MP8	Adreno 330	Adreno 418	Adreno 430
Screen size	5.1in	5.7in	4.6in	4.5in	5.2in
Screen resolution	1440x2560	720x1280	720x1280	1440x2560	1080x1920
Pixel density	577ppi	518ppi	319ppi	538ppi	424ppi
Screen technology	Super AMOLED	Super AMOLED	IPS	IPS	IPS
Front camera	5Mp	5Mp	2.2Mp	8Mp	5.1Mp
Rear camera	16Mp, LED flash	16Mp, LED flash	20.7Mp, LED flash	16Mp	23Mp
Video recording	4K	4K	4K	4K	4K
Cellular connectivity	4G	4G	4G	4G	4G
SIM type	Nano-SIM	Nano-SIM	Nano-SIM	Micro-SIM	Nano-SIM
Dual-SIM as standard	x	x	x	x	x
Wi-Fi	802.11a/b/g/n/ac, dual-band	802.11a/b/g/n/ac, dual-band	802.11a/b/g/n/ac, dual-band	802.11a/b/g/n/ac, dual-band	802.11a/b/g/n/ac, dual-band
Bluetooth	Bluetooth 4.1	Bluetooth 4.2	Bluetooth 4.0	Bluetooth 4.1	Bluetooth 4.1 (aptX)
GPS	GPS, Glonass	A-GPS, Glonass	A-GPS, Glonass	A-GPS, Glonass	A-GPS, Glonass
NFC	✓	✓	✓	✓	✓
USB OTG	✓	✓	✓	✓	✓
Extra features	Heart-rate sensor, fingerprint scanner	Heart-rate sensor, fingerprint scanner	Waterproof, PS4 Remote Play	24-bit/192kHz audio, rear key	FM radio with RDS, fingerprint scanner
Geekbench 3.0 (single)	1347	1497	Not tested	Not tested	Not tested
Geekbench 3.0 (multi)	4438	Not tested	2800	3513	4212
SunSpider	1048ms	718ms	944ms	715ms	644ms
GFXBench: T-Rex	30fps	37fps	41fps	25fps	53fps
GFXBench: Manhattan	14fps	15fps	26fps	9fps	26fps
Battery	2550mAh, non-removable	2300mAh, non-removable	2600mAh, non-removable	3000mAh removable	2900mAh, non-removable
Dimensions	143.4x70.5x6.8mm	153.2x76.1x7.6mm	64.9x127x8.6mm	64.9x127x8.6mm	72x146x7.3mm
Weight	138g	171g	129g	155g	154g
Warranty	1 year	1 year	2 years	1 year	1 year
FULL REVIEW	TINYURL.COM/PC2KOYO	TINYURL.COM/OC0AJPL	TINYURL.COM/NBBUY82	TINYURL.COM/OR082MS	TINYURL.COM/OECLUGK

Best budget smartphones	1	2	3	4	5
	Vodafone Smart Ultra 6	Motorola Moto E 4G 2015	Vodafone Smart Prime 6	Wileyfox Swift	EE Harrier Mini
Price	£125 inc VAT	£109 inc VAT	£79 inc VAT	£129 inc VAT	£99 inc VAT
Website	Vodafone.co.uk	Motorola.co.uk	Vodafone.co.uk	Wileyfox.com	EE.co.uk
Build rating	★★★★☆	★★★★☆	★★★★☆	★★★★☆	★★★★☆
Features rating	★★★★☆	★★★★☆	★★★★☆	★★★★☆	★★★★☆
Performance rating	★★★★☆	★★★★☆	★★★★☆	★★★★☆	★★★★☆
Value rating	★★★★★	★★★★★	★★★★☆	★★★★★	★★★★★
Overall rating	★★★★★	★★★★★	★★★★★	★★★★★	★★★★★
OS (out of box)	Android 5.0.2 Lollipop	Android 5.0 Lollipop	Android 5.0.2 Lollipop	Cyanogen OS	Android 5.0 Lollipop
Processor	2.5GHz Snapdragon 615	1.2GHz Snapdragon 410	1.2GHz Snapdragon 410	1.2GHz Snapdragon 410	1.2GHz
RAM	2GB	1GB	1GB	2GB	1GB
Storage	16GB	8GB	8GB	16GB	8GB
MicroSD support	Up to 128GB	Up to 32GB	Up to 64GB	Up to 32GB	Not specified
Graphics	Adreno 405	Adreno 306	Adreno 306	Adreno 306	Not specified
Screen size	5.5in	4.5in	5in	5in	4.7in
Screen resolution	1920x1080	540x960	720x1280	1280x720	720x1280
Pixel density	401ppi	245ppi	294ppi	294ppi	312ppi
Screen technology	IPS	IPS	IPS	IPS	IPS
Front camera	5Mp	0.3Mp	2Mp	5Mp	2Mp
Rear camera	13Mp	5Mp	8Mp	13Mp, LED flash	8Mp, LED flash
Video recording	1080p	720p	1080p	1080p	720p
Cellular connectivity	4G*	4G	4G*	4G	4G
SIM type	Nano-SIM	Micro-SIM	Micro-SIM	Micro-SIM	Micro-SIM
Dual-SIM as standard	x	x	x	x	x
Wi-Fi	802.11b/g/n	802.11b/g/n	802.11b/g/n	802.11b/g/n	802.11b/g/n
Bluetooth	Bluetooth 4.0	Bluetooth 4.0	Bluetooth 4.0	Bluetooth 4.0	Bluetooth 4.0
GPS	GPS, A-GPS	GPS, A-GPS, Glonass	A-GPS	A-GPS	A-GPS, Glonass
NFC	✓	x	x	x	x
USB OTG	x	x	✓	✓	✓
Extra features	FM radio	Double-twist launches camera, lockscreen alerts	FM radio	3D G-Sensor,	Wi-Fi calling
Geekbench 3.0 (single)	649	464	464	Not tested	Not tested
Geekbench 3.0 (multi)	2469	1463	1401	1456	1549
SunSpider	1545ms	1301ms	1301ms	1760ms	1880ms
GFXBench: T-Rex	14fps	13fps	9.4fps	10fps	10fps
GFXBench: Manhattan	5.7fps	6fps	3.8fps	4fps	4fps
Battery	3000mAh, non-removable	2390mAh, non-removable	Not specified	2500mAh, removable	2000mAh, non-removable
Dimensions	154x77x9mm	66.8x5.2x12.3x129.9mm	141.65x71.89x9mm	141x71x9.4mm	138x67.9x9.5mm
Weight	159g	145g	155g	135g	124g
Warranty	1 year	1 year	1 year	1 year	1 year
FULL REVIEW	TINYURL.COM/07Q9NXR	TINYURL.COM/07Q9NXR	TINYURL.COM/05DSNHE	TINYURL.COM/P09KG38	TINYURL.COM/PXTR0H4

* Locked to Vodafone. All other models here are unlocked

Best phablets

1

Samsung Galaxy Note5

2

Samsung Galaxy Note 4

3

LG G4

4

LG G3

5

OnePlus 2

	E600 inc VAT	E599 inc VAT	E500 inc VAT	E479 inc VAT	E239 inc VAT
Price	Samsung Galaxy Note 5	Samsung.com/uk	Lg.com/uk	Lg.com/uk	Oneplus.net
Website	★★★★☆	★★★★☆	★★★★☆	★★★★☆	★★★★☆
Build rating	★★★★☆	★★★★☆	★★★★☆	★★★★☆	★★★★☆
Features rating	★★★★☆	★★★★☆	★★★★☆	★★★★☆	★★★★☆
Performance rating	★★★★☆	★★★★☆	★★★★☆	★★★★☆	★★★★☆
Value rating	★★★★☆	★★★★☆	★★★★☆	★★★★☆	★★★★☆
Overall rating	★★★★★	★★★★★	★★★★★	★★★★★	★★★★★
OS (out of box)	Android 5.1.1 Lollipop	Android 4.4 KitKat	Android 5.1 Lollipop	Android 4.4 KitKat	OxygenOS 2.0 (Android 5.1)
Processor	2.1GHz Exynos 7420	2.7GHz Snapdragon 805	1.82GHz Snapdragon 808	2.5GHz Snapdragon 801	1.8GHz Snapdragon 801
RAM	4GB	3GB	3GB	2GB/3GB	3/4GB
Storage	32/64GB	32GB	32GB	16GB/32GB	16GB/64GB
MicroSD support	✗	Up to 128GB	Up to 128GB	✗	✗
Graphics	Mali-T760MP8	Adreno 420	Adreno 418	Adreno 330	Adreno 430
Screen size	5.7in	5.7in	5.5in	5.5in	5.5in
Screen resolution	720x1280	1440x2560	1440x2560	1440x2560	1920x1080
Pixel density	518ppi	515ppi	538ppi	534ppi	401ppi
Screen technology	Super AMOLED	Super AMOLED	IPS	IPS	IPS
Front camera	5Mp	3.7Mp	8Mp	2Mp	5Mp
Rear camera	16Mp, LED flash	16Mp, LED flash	16Mp, LED flash	13Mp, LED flash	13Mp, Dual-LED flash
Video recording	4K	4K	4K	4K	4K
Cellular connectivity	4G	4G	4G	4G	4G
SIM type	Nano-SIM	Micro-SIM	Micro-SIM	Micro-SIM	Dual-SIM
Dual-SIM as standard	✗	✗	✗	✗	Yes
Wi-Fi	802.11a/b/g/n/ac, dual-band	802.11a/b/g/n/ac, dual-band	802.11a/b/g/n/ac, dual-band	802.11a/b/g/n/ac, dual-band	802.11ac, dual-band
Bluetooth	Bluetooth 4.2	Bluetooth 4.1	Bluetooth 4.0	Bluetooth 4.0 (aptX)	Bluetooth 4.0
GPS	A-GPS, Glonass	GPS, Glonass	A-GPS, Glonass	A-GPS, Glonass	GPS, Glonass
NFC	✓	✓	✓	✓	✗
USB OTG	✓	✓	✓	✓	✓
Extra features	Heart-rate sensor, fingerprint scanner	Fingerprint, UV, heart-rate sensors, S Pen stylus	24bit/192kHz audio, rear key, IR blaster	24bit/192kHz audio, rear key	None
Geekbench 3.0 (single)	1497	Not tested	Not tested	Not tested	Not tested
Geekbench 3.0 (multi)	Not tested	3272	3513	2465	4094
SunSpider	718ms	1367ms	715ms	959ms	1471ms
GFxBench: T-Rex	37fps	27fps	25fps	20fps	46fps
GFxBench: Manhattan	15fps	11fps	9fps	Not tested	16fps
Battery	2300mAh, non-removable	3220mAh, removable	3000mAh, removable, Qi	3000mAh, removable, Qi	3300mAh, non-removable
Dimensions	153.2x76.1x7.6mm	78.6x153.5x8.5mm	76x149x6.3-9.8mm	75x146x8.9mm	151.8x74.9x9.9mm
Weight	171g	176g	155g	149g	175g
Warranty	1 year	2 years	1 year	1 year	1 year
FULL REVIEW	TINYURL.COM/OCOAJPL	TINYURL.COM/PNHJCZ4	TINYURL.COM/ODGU4BT	TINYURL.COM/OA76T73	TINYURL.COM/NSGEV3U

	Best 7- & 8in tablets				
	1  PC ADVISOR GOLD	2  PC ADVISOR GOLD	3 	4  PC ADVISOR RECOMMENDED	5  PC ADVISOR RECOMMENDED
	Google Nexus 7	Samsung Galaxy Tab S 8.4	Apple iPad mini 4	Sony Xperia Z3 Tablet Compact	Apple iPad mini 2
Price	£199 inc VAT	£319 inc VAT	£319 inc VAT	£299 inc VAT	£219 inc VAT
Website	Play.google.com	Samsung.com/uk	Apple.com/uk	Sony.co.uk	Apple.com/uk
Build rating	★★★★☆	★★★★☆	★★★★☆	★★★★☆	★★★★☆
Features rating	★★★★☆	★★★★☆	★★★★☆	★★★★☆	★★★★☆
Performance rating	★★★★☆	★★★★☆	★★★★☆	★★★★☆	★★★★☆
Value rating	★★★★☆	★★★★☆	★★★★☆	★★★★☆	★★★★☆
Overall rating	★★★★★	★★★★★	★★★★★	★★★★★	★★★★★
OS (out of box)	Android 4.3 Jelly Bean	Android 4.4 KitKat	iOS 9	Android 4.4 KitKat	iOS 9
Processor	1.5GHz Snapdragon S4 Pro	Exynos 5420, octa-core	Apple A8, Apple M8	2.5GHz Snapdragon 801	Apple A7, Apple M7
RAM	2GB	3GB	2GB	3GB	1GB
Storage	16GB/32GB	16GB/32GB	16GB/64GB/128GB	16GB/32GB	16GB/32GB
MicroSD support	x	Up to 128GB	x	Up to 128GB	x
Graphics	Adreno 320	ARM Mali-T628 MP6	Apple A8	Adreno 330	Apple A7
Screen size	7in	8.4in	7.9in	8in	7.9in
Screen resolution	1920x1200	2560x1440	2048x1536	1920x1200	2048x1536
Pixel density	323ppi	359ppi	326ppi	283ppi	326ppi
Screen technology	IPS	Super AMOLED	IPS	IPS	IPS
Front camera	1.2Mp	2.1Mp	1.2Mp	2.2Mp	1.2Mp
Rear camera	5Mp	8Mp, LED flash	8Mp	8.1Mp	5Mp
Video recording	1080p	1080p	1080p	1080p	7200p
Cellular connectivity	4G version available	4G version available	4G version available	4G version available	4G version available
Wi-Fi	802.11b/g/n, dual-band	802.11a/b/g/n/ac, dual-band	802.11a/b/g/n/ac, dual-band	802.11a/b/g/n/ac, dual-band	802.11a/b/g/n, dual-band
Bluetooth	Bluetooth 4.0	Bluetooth 4.0	Bluetooth 4.0	Bluetooth 4.0	Bluetooth 4.0
GPS	GPS, Glonass	GPS, Glonass	A-GPS, Glonass	A-GPS, Glonass	A-GPS, Glonass
NFC	✓	x	x	✓	x
USB OTG	✓	✓	x	✓	x
Fingerprint scanner	x	✓	✓	x	x
Waterproof	x	x	x	✓	x
Extra features	None	Stereo speakers	None	PS4 Remote Play, stereo speakers	None
Geekbench 3.0 (single)	Not tested	Not tested	1816	Not tested	Not tested
Geekbench 3.0 (multi)	Not tested	2765	4523	2708	Not tested
SunSpider	1136ms	1089ms	1017ms	1017ms	397ms
GFXBench: T-Rex	Not tested	14fps	Not tested	28fps	Not tested
GFXBench: Manhattan	Not tested	3fps	25fps	11fps	Not tested
Battery	3950mAh, non-removable, Qi	4900mAh, non-removable	5124mAh, non-removable	4500mAh, non-removable	6470mAh, non-removable
Dimensions	200x114x8.65mm	126x213x6.6mm	203.2x134.8x6.1mm	213x124x6.4mm	200x134.7x7.5mm
Weight	299g	294g	298.8g	270g	331g
Warranty	1 year	1 year	1 year	1 year	1 year
FULL REVIEW	TINYURL.COM/PUJDJBY	TINYURL.COM/OUEM64Z	TINYURL.COM/PBMONMA	TINYURL.COM/NJ6VHEO	TINYURL.COM/PCJPB5L

Best 9- & 10in tablets

1 **PC ADVISOR**
GOLD

2 **PC ADVISOR**
RECOMMENDED

3 **PC ADVISOR**
RECOMMENDED

4 **PC ADVISOR**
RECOMMENDED

5 **PC ADVISOR**
RECOMMENDED

Apple iPad Air 2











Samsung Galaxy Tab S 10.5











Sony Xperia Z2 Tablet






Apple iPad Air






Google Nexus 10









Price	£399 inc VAT	£399 inc VAT	£369 inc VAT	£319 inc VAT	£389 inc VAT
Website	Apple.com/uk	Samsung.com/uk	Sony.co.uk	Apple.com/uk	Play.google.com
Build rating	★★★★★	★★★★☆	★★★★☆	★★★★☆	★★★★☆
Features rating	★★★★☆	★★★★☆	★★★★☆	★★★★☆	★★★★☆
Performance rating	★★★★☆	★★★★☆	★★★★☆	★★★★☆	★★★★☆
Value rating	★★★★☆	★★★★☆	★★★★☆	★★★★☆	★★★★☆
Overall rating	★★★★★	★★★★★	★★★★★	★★★★★	★★★★★
OS (out of box)	iOS 8.2	Android 4.4 KitKat	Android 4.4 KitKat	iOS 8.2	Android 4.2 Jelly Bean
Processor	Apple A8X, Apple M8	Exynos 5420, octa-core	2.3GHz Snapdragon 801	Apple A7, Apple M7	17GHz Exynos 5250
RAM	2GB	3GB	3GB	1GB	2GB
Storage	16GB/64GB/128GB	16GB/32GB	16GB	16GB/32GB	16GB/32GB
MicroSD support	No	Up to 128GB	Up to 64GB	No	No
Graphics	Apple A8X	ARM Mali-T628 MP6	Adreno 330	Apple A7	ARM Mali T604
Screen size	9.7in	10.5in	10.1in	9.7in	10.1in
Screen resolution	2048x1536	2560x1600	1920x1200	2048x1536	2560x1600
Pixel density	264ppi	288ppi	224ppi	264ppi	300ppi
Screen technology	IPS	Super AMOLED	IPS	IPS	IPS
Front camera	1.2Mp	2.1Mp	2.2Mp	1.2Mp	1.5Mp
Rear camera	8Mp	8Mp, LED flash	8.1Mp	5Mp	5Mp, LED flash
Video recording	1080p	1080p	1080p	1080p	1080p
Cellular connectivity	4G version available	4G version available	4G version available	4G version available	No
Wi-Fi	802.11a/b/g/n/ac, dual-band	802.11a/b/g/n/ac, dual-band	802.11a/b/g/n/ac, dual-band	802.11a/b/g/n, dual-band	802.11b/g/n, dual-band
Bluetooth	Bluetooth 4.0	Bluetooth 4.0	Bluetooth 4.0	Bluetooth 4.0	Bluetooth 4.0
GPS	A-GPS, Glonass	GPS, Glonass	GPS, Glonass	A-GPS, Glonass	GPS, Glonass
NFC	Yes (for Apple Pay)	No	Yes	No	Yes
USB OTG	×	Yes	Yes	No	Yes
Fingerprint scanner	✓	Yes	No	No	No
Waterproof	×	No	Yes	No	No
Extra features	None	Stereo speakers	PlayStation certified	None	None
Geekbench 3.0 (single)	1816	Not tested	967	1487	Not tested
Geekbench 3.0 (multi)	4523	2769	2719	2703	Not tested
SunSpider	Not tested	1079ms	1099ms	400ms	1329ms
GFxBench: T-Rex	48fps	14fps	27fps	23fps	Not tested
GFxBench: Manhattan	Not tested	3fps	Not tested	Not tested	Not tested
Battery	7340mAh, non-removable	7900mAh, non-removable	6000mAh, non-removable	8600mAh, non-removable	9000mAh, non-removable
Dimensions	240x169.5x6.1mm	247x177x6.6mm	266x172x6.4mm	240x169x7.5mm	264x178x8.9mm
Weight	437g	465g	439g	469g	603g
Warranty	1 year	1 year	1 year	1 year	1 year
FULL REVIEW	TINYURL.COM/PLOXWSZ	TINYURL.COM/OESDFZO	TINYURL.COM/M8BZZUN	TINYURL.COM/NV0OF6H	TINYURL.COM/PUAG9RN


Best smartwatches					
	1 	2 	3 	4 	5 
	LG Watch R	Motorola Moto 360	Sony Smartwatch 3	LG Watch Urbane	Asus ZenWatch
Price	£195 inc VAT	£199 inc VAT	£189 inc VAT	£259 inc VAT	£199 inc VAT
Website	Lg.com/uk	Motorola.co.uk	Sony.co.uk	Lg.com/uk	Uk.asus.com
Overall rating	★★★★★	★★★★★	★★★★★	★★★★★	★★★★★
Operating system	Android Wear	Android Wear	Android Wear	Android Wear	Android Wear
Compatibility	Android	Android	Android	Android	Android
Display	1.3in 320x320 P-OLED	1.56in 290x320 LCD	1.6in 320x320 LCD	1.3in 320x320 P-OLED	1.6in 320x320 AMOLED
Processor	1.2GHz Snapdragon 400	Ti OMAP 3	1.2GHz ARM V7	1.2GHz Snapdragon 400	1.2GHz Snapdragon 400
RAM	512MB	512MB	512MB	512MB	512MB
Storage	4GB	4GB	4GB	4GB	4GB
Waterproof	Yes	Yes	Yes	Yes	Yes
Battery	410mAh	320mAh	420mAh	410mAh	1.4Wh
Dimensions	46.4x53.6x9.7mm	46x11.5mm	36x51x10mm	46x52x10.9mm	51x39.9x7.9-9.4mm
Weight	62g	49g (leather band model)	45g	67g	75g
Warranty	1 year	1 year	1 year	1 year	1 year
FULL REVIEW	TINYURL.COM/QATY8FT	TINYURL.COM/O9C69K6	TINYURL.COM/OOVZ3PN	TINYURL.COM/Q3VK7ES	TINYURL.COM/NN7GA7W

Best smartwatches					
	6 	7 	8 	9 	10 
	Apple Watch	Pebble Steel	LG G Watch	Sony Smartwatch 2	Samsung Gear 2 Neo
Price	£299 inc VAT	£179 inc VAT	£159 inc VAT	£125 inc VAT	£169 inc VAT
Website	Apple.com/uk	Getpebble.com	Lg.com/uk	Sony.co.uk	Samsung.com/uk
Overall rating	★★★★★	★★★★★	★★★★★	★★★★★	★★★★★
Operating system	watchOS	Proprietary	Android Wear	Proprietary	Tizen
Compatibility	iOS	iOS, Android	Android	Android	Samsung phones
Display	1.32in 340x312 Ion-X Glass	1.26in 144x168 E-Paper	1.65in 280x280 IPS	1.6in 220x176 LCD	1.6in 320x320 Super AMOLED
Processor	Apple S1	Not specified	1.2GHz Snapdragon 400	Not specified	Dual-core
RAM	512MB	512MB	512MB	Not specified	512MB
Storage	8GB	Not specified	4GB	Not specified	4GB
Waterproof	Yes	Yes	Yes	Yes	Yes
Battery	Not specified	130mAh	400mAh	Not specified	300mAh
Dimensions	38.6x33.3x10.5mm	46x34x10.5mm	37.9x46.5x9.95mm	42x41x9mm	58.8x37.9x10mm
Weight	72g	156g	63g	123g	55g
Warranty	1 year	1 year	1 year	1 year	1 year
FULL REVIEW	TINYURL.COM/OUTH9XK	TINYURL.COM/PPBXV7J	TINYURL.COM/Q84WL6L	TINYURL.COM/P4X7AZM	TINYURL.COM/Q68F5SU

Best activity trackers	 1 <small>PC ADVISOR RECOMMENDED</small>	 2	 3	 4 <small>PC ADVISOR RECOMMENDED</small>	 5 <small>PC ADVISOR RECOMMENDED</small>
	Fitbit Charge HR	Fitbit Surge	Fitbit One	Microsoft Band	Fitbit Charge
Price	£119 inc VAT	£199 inc VAT	£79 inc VAT	£169 inc VAT	£99 inc VAT
Website	Fitbit.com/uk	Fitbit.com/uk	Fitbit.com/uk	Microsoft.com/en-gb	Fitbit.com/uk
Overall rating	★★★★★☆☆	★★★★★☆☆	★★★★★☆☆	★★★★★☆☆	★★★★★☆☆
Compatibility	iOS, Android, Windows	iOS, Android, Windows	iOS, Android	iOS, Android, Windows	iOS, Android, Windows
Display	OLED	Touchscreen	OLED	TFT	OLED
Pedometer	Yes	Yes	Yes	Yes	Yes
Heart-rate monitor	Yes	Yes	No	Yes	No
Sleep tracking	Yes	Yes	Yes	Yes	Yes
Alarm	Yes	Yes	Yes	Yes	Yes
Third-party app synching	Yes	Yes	Yes	Yes	Yes
Call notifications	Yes	Yes	No	Yes	Yes
Waterproof	Yes	Yes	No	Yes	Yes
Battery life	5+ days	5 days	10-14 days	2 days	7-10 days
Dimensions, weight	21.1mm, 26g	34mm, 51g	35.5x28x9.65mm, 8g	11x33mm, 60g	21.1mm, 24g
FULL REVIEW	TINYURL.COM/PCKV4SU	TINYURL.COM/O83DR47	TINYURL.COM/PT2TC6F	TINYURL.COM/LHMQ2AC	TINYURL.COM/PFMQ9KH

Best activity trackers	 6	 7 <small>PC ADVISOR RECOMMENDED</small>	 8	 9 <small>PC ADVISOR RECOMMENDED</small>	 10
	Basis Peak	Xiaomi Mi Band	Jawbone Up 2	Jawbone Up Move	Jawbone Up24
Price	£169 inc VAT	£29 inc VAT	£89 inc VAT	£39 inc VAT	£99 inc VAT
Website	En-gb.mybasis.com	Mobilefun.co.uk	Jawbone.com	Jawbone.com	Jawbone.com
Overall rating	★★★★★☆☆	★★★★★☆☆	★★★★★☆☆	★★★★★☆☆	★★★★★☆☆
Compatibility	iOS, Android	iOS, Android	iOS, Android	iOS, Android	iOS, Android
Display	E-Ink	No	No	No	No
Pedometer	Yes	Yes	Yes	Yes	Yes
Heart-rate monitor	Yes	No	No	No	No
Sleep tracking	Yes	Yes	Yes	Yes	Yes
Alarm	No	Yes	Yes	No	Yes
Third-party app synching	No	No	Yes	Yes	Yes
Call notifications	Yes	Yes	No	No	No
Waterproof	Yes	Yes	Splashproof	Splashproof	Splashproof
Battery life	4 days	30 days	7 days	Six months, non-rechargeable	7 days
Dimensions, weight	33x43x10mm, 51g	157x205mm, 13g	220x115x3-8.5mm, 25g	27.6x27.6x9.8mm, 6.8g	S: 19g, M: 22g, L: 23g
FULL REVIEW	TINYURL.COM/LHMQ2AC	TINYURL.COM/QZ3YVCR	TINYURL.COM/PH79BZK	TINYURL.COM/PFXOFNE	TINYURL.COM/NDBYMBB

Best power banks					
	1 	2 	3	4	5 
	Zendure A2 (2nd gen)	Xiaomi 10,000mAh	Maximas XTRON USB-C	iHarbot Power Bank MS024	Anker Astro Mini
Price	£25 inc VAT	£11 inc VAT	\$69 (€45)	£7.50 inc VAT	£13 inc VAT
Website	Zendure.com	MI.com/en	Indiegogo.com	Amazon.co.uk	ianker.com
Overall rating	★★★★★	★★★★★	★★★★★	★★★★★	★★★★★
Capacity	6700mAh	10,000mAh	13,400mAh	5000mAh	3200mAh
Input	1x 7.5W Micro-USB	1x 10W Micro-USB	1x 10W Micro-USB	1x 10.5W Micro-USB	1x 4W Micro-USB
Outputs	1x 10.5W USB	1x 10.5W USB	1x 21W USB	1x 10W USB	1x 5W USB
Auto-on/-off	Yes	Yes	No	Auto-on	No
Passthrough charging	Yes	Yes	No	Yes	No
Status indicator	4 LEDs	4 LEDs	4 LEDs	4 LEDs	No
LED flashlight	No	No	No	No	No
Carry case	Yes	No	No	No	Yes
Dimensions	93x48x23mm	91x60.4x22mm	77x21x93mm	118x116x63mm	92x23x23mm
Weight	137g	207g	247g	150g	80g
Warranty	1 year	1 year	Not specified	18 months	18 months
FULL REVIEW	TINYURL.COM/NGCNO5F	TINYURL.COM/NFOZOCB	TINYURL.COM/PVO2LEC	TINYURL.COM/PVO2LEC	TINYURL.COM/PZHUHJO

Best desktop chargers					
	1	2 	3	4	5
	CHOETech 6-port Charger	iClever USB Travel Charger	Zendure Turbo Charger	Olixar Smart IC Charger	Inateck USB Charger
Price	£25 inc VAT	£20 inc VAT	£25 inc VAT	£34 inc VAT	£15 inc VAT
Website	Choetech.com	Hi5power.com	Zendure.com	Mobilefun.co.uk	Inateck.com
Overall rating	★★★★★	★★★★★	★★★★★	★★★★★	★★★★★
Max output	60W	50W	40W	50W	35W
Outputs:					
USB 1	15W USB	12W USB	12W USB	12.5W USB	10.5W USB
USB 2	15W USB	12W USB	12W USB	12.5W USB	10.5W USB
USB 3	15W USB	12W USB	12W USB	12.5W USB	5W USB
USB 4	15W USB	12W USB	12W USB	12.5W USB	5W USB
USB 5	12W USB	12W USB	12W USB	12.5W USB	5W USB
USB 6	15W USB	12W USB	N/A	12.5W USB	N/A
Colours available	Black	Black	Black, white	White	Black
Dimensions	71.5x29x88.4mm	100x69x27mm	97x60x27mm	100x69x26mm	100x55x20mm
Weight	158g	180g	166g	189g	340g
Warranty	1 year	1 year	1 year	2 years	1 year
FULL REVIEW	TINYURL.COM/QG4X5D9	TINYURL.COM/MPA4DWC	TINYURL.COM/NKYNJ7P	TINYURL.COM/OCZXK93	TINYURL.COM/KBUHDF

